

FINAL REPORT

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AMERICAN SECURITY
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INTERNATIONAL ENERGY SITUATION

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FINAL REPORT

AMERICAN SECURITY AND THE INTERNATIONAL ENERGY SITUATION

VOLUME IV: COLLECTED PAPERS

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TABLE OF CONTENTS.

Beyond the Open Door? - U.S. Policy and Access to Global Resources (Rept. no. 1)
By Lewis Dunn. (HI-2148-DP); Averting

Can We Avert Economic Warfare in Raw Materials? - U.S. Agriculture
as a Blue Chip;
By William Schneider. (Reprinted from National Strategy
Information Center)

Changing American Foreign Policy in the Middle East? An Analysis (Rept. no. 2)
By Edward S. Boylan. (HI-2195/2-P);

Iraq as a Soviet Proxy on the Persian Gulf? The Next Decade (Rept. no. 3)
By Raphael Danziger. (HI-2168-P); and

Energy in the Third World (Rept. no. 4)
By Jean M. Ingersoll. (HI-2094-P)

BEYOND THE OPEN DOOR: U.S. POLICY AND
ACCESS TO GLOBAL RESOURCES

By
Lewis Dunn

TABLE OF CONTENTS

	Page
I. Background	1
II. Dimensions of the Problem	3
U.S. Energy Independence	3
Food Shortages	4
Non-Fuel Raw Materials and Commodity Cartels	5
Interdependence, Economic Power and the Need for Norms	7
III. Access to Global Resources: Existing Norms and Divergent Policy Preferences	11
Existing International Norms	11
Access to Global Resources: The Stakes	19
IV. Guidelines for U.S. Resources Policy	27
Depoliticization of International Resources Trade	27
Rationalization of Interdependence:	
Export Controls and Economic Necessities	41
Towards a Conception of Global Economic Equity	46
V. Pursuing a Global Economic Security System	51
Right Reason and Diplomatic Initiatives.	51
Decreasing U.S. Vulnerabilities	54
Manipulating or Transforming Existing Patterns of Interaction	56
Manipulating Vulnerabilities in Related Issue-Areas	61
An Ultimate Vulnerability: The Threat or Use of Force	67
VI. Conclusion	81

BEYOND THE OPEN DOOR: U.S. POLICY AND ACCESS TO GLOBAL RESOURCES

I. BACKGROUND

Throughout the postwar era, U.S. foreign policy has pressed for lowered tariff and non-tariff barriers to world trade and the emergence of an open world economy. Both the Bretton Woods agreements and the GATT were designed to serve that objective. The IMF was to provide a foreign exchange system adequate to future growth of world trade, while the GATT committed its members to the principle of nondiscriminatory trading and to pursuit of trade liberalization. But, although the Atlantic Charter referred to

The enjoyment by all states, great or small, victor or vanquished, of access, on equal terms, to the trade and to the raw materials of the world which are needed for their economic prosperity* [*italics added*],

the focus of the postwar economic order has been upon access to markets and not upon access to supplies.**

Recent events, most particularly the politically-motivated use of export controls by most of the Arab oil-producing countries in October 1973, have brought the question of access to raw materials supplies back to the forefront of global debate. Within the United States there has been continuing speculation about how to respond to a future Arab embargo and about what types of international norms of access to

*The Atlantic Charter, 1941, in William Appleman Williams (ed.), The Shaping of American Diplomacy (Chicago: Rand McNally & Co., 1956), p. 914.

**On the origins of the postwar system and U.S. policy, see Gabriel Kolko, The Politics of War (New York: Vintage Books, 1968), esp. Ch. 11.

supplies the United States should begin to foster. Each of these questions exists within a broader context of issues associated with managing global economic interdependence, the scope of redistribution from rich to poor nations, and strengthening the existing system of conflict management while broadening it to encompass international economic collective security.

The following paper delineates the framework of a U.S. policy on access to global resources. Beginning from a discussion of the dimensions of the problem, it goes on to propose and assess alternative norms in view of U.S. interests both narrowly and more broadly defined, the interests of other countries, and nascent community interests. Finally, in discussing how U.S. policy might pursue its preferred norms, the measures which could be utilized to deter or respond to any future Arab oil embargo will be evaluated.

II. DIMENSIONS OF THE PROBLEM

Any attempt to delineate the dimensions of the access-to-resources problem immediately becomes enmeshed in controversies concerning the feasibility of U.S. energy independence, the likelihood of global food shortages, the prospect of natural scarcities in other non-fuel raw materials, and the probability that the success of the OPEC cartel will lead to additional successful raw materials cartels. A complete discussion of these issues exceeds the scope of this paper. However, to provide background for later analysis and to indicate that the need to consider appropriate international export control norms stems not only from the possible short-run use of the Arab "oil weapon," but also from uncertainties about long-run resource scarcities, a brief examination of this resource debate is warranted.

U.S. Energy Independence

Near-term U.S. dependence upon imports of foreign oil, including growing relative dependence upon Arab oil, remains unavoidable. Both the prospect of continued Arab-Israeli conflict and renewed Arab references to the possibility of politically-motivated production cutbacks or embargoes indicate, therefore, the need to articulate a U.S. policy on access to global resources. Over the longer-run, U.S. attainment of relative energy independence would be possible. To do so, however, by 1985-1990 would require sufficient political will and ability to reduce demand by both conservation and a shift to energy-saving processes and equipment and to increase domestic supplies by greater use of coal, off-shore oil, nuclear power, and shale resources. Yet, for

a variety of reasons, the outlook for relative independence is uncertain. These include political vacillation, resistance from environmentalists and others to increased reliance upon nuclear power and coal strip-mining in the West,^{*} investor uncertainty about the longer-run price of oil combined with governmental reluctance to set a floor beneath the price of oil substitutes,^{**} and limited movement toward the level of conservation and energy-saving adjustments that would be required.^{***} Given these factors, the near-term of United States vulnerability to the Arab "oil weapon" may be more prolonged than previously anticipated.

Food Shortages

For many countries the access-to-resources problem includes access to U.S. food and feed grains supplies in a time of periodic, recurrent shortages. Although some question arises whether coming decades will be characterized by such shortages, most agricultural economists foresee an unsteady balance between world supply and demand punctuated by periodic crises in which global needs clash with U.S. efforts to assure adequate domestic availability of such supplies at moderately stable prices. The changed world food situation during the next decades will be shaped by three factors: First, both population growth and higher incomes are increasing demand. The latter is particularly exacerbating because increased income is accompanied by a shift to reliance upon meat as a protein source with concomitant increased per capita cereal consumption. Second, those

^{*}On resistance to strip-mining among Montana ranchers, see The New York Times Magazine, October 6, 1974.

^{**}See recent decision of Colony Development Operation to suspend construction of shale oil plant, The New York Times, October 5, 1974.

^{***}The New York Times, October 9, 1974.

global grain reserves and unused U.S. croplands which underpinned the stability of the postwar global food economy no longer exist. Third, critical inputs necessary to achieve greater yields on available land, e.g., fuel, fertilizer, water and appropriate weather conditions, may very likely be unavailable periodically or available only at prices which preclude sufficiently widespread utilization.* For these reasons, optimists notwithstanding, global dependence upon North America, and particularly upon the United States, as a source of residual agricultural exports to make up for periodic shortages elsewhere will increase greatly during the next decades. The probable clash between U.S. domestic interests and those of other nations illustrates the need to clarify international norms for export controls.

Non-Fuel Raw Materials and Commodity Cartels

Following Meadows and the Limits to Growth argument, some would contend that access to resources will dominate future international economic affairs as the world slowly "runs out of raw materials." Were this the case, heavy U.S. dependence upon foreign sources of vital raw materials, e.g., bauxite, chromium, cobalt, manganese, mercury, nickel, tin, tungsten, and zinc, would be a cause for concern. But such dire predictions of naturally induced scarcities too quickly dismiss the likelihood that present and new technologies will permit a gradual

*See, e.g., the discussion in Lester R. Brown and Erik P. Eckholm, "Food and Hunger: The Balance Sheet," Challenge, September/October, 1974, pp. 12-24; Lyle P. Schertz, "World Food: Prices and the Poor," Foreign Affairs, Vol. 52, No. 3 (April 1974), pp. 511-537; Willard W. Cochrane, Feast or Famine: The Uncertain World of Food and Agriculture and Its Policy Implications for the United States (Washington, D.C.: National Planning Association, 1974).

shift from scarce to abundant materials, the development of new substitutes, more efficient use of lower grade ores, economies of use due to increased prices, increased recycling, and similar adjustments as have occurred in the past when a particular raw material became scarce. Thus, a more plausible conclusion is that "the United States is not likely to experience truly serious shortages of raw materials during the next thirty to fifty years because of projected population and economic growth."^{*}

The outlook for scarcities artificially induced for economic or political reasons by commodity cartelization is somewhat more uncertain. Both sides in the current "commodity cartel debate" note how OPEC's apparent success has stimulated efforts to form cartels by other groups of raw materials producing countries, e.g., in bauxite, tin, copper, coffee, and even bananas. They agree also that low price elasticity of demand and supply, high market concentration, and an ability to coordinate policy and actions reinforced by the experience of past cooperation are necessary conditions for successful cartelization. This agreement begins to crumble on whether these non-fuel raw materials are characterized by the preceding conditions. How unresponsive to changes in price are supply and demand for materials such as bauxite, tin, copper, zinc, and nickel? Is the number of producers sufficiently limited? More importantly, even assuming that many if not most raw materials are so characterized, are the preceding necessary and sufficient conditions for a successful producer cartel? Must there also be shared political

^{*} Joseph L. Fisher and Ronald G. Redker, "Population Growth, Resource Availability and Environmental Quality," American Economic Review, Vol. LXIII, No. 2 (May 1973), pp. 79-87, p. 81.

values or will the mere ability to "get along with each other" suffice? Are large foreign exchange reserves necessary to allow a country to sacrifice current revenues for future gains, or is the prospect of such gains enough in itself? How much did passive governmental and multinational corporation responses contribute to OPEC's success? Can low consumer resistance be expected in the future? Definitive answers must await the outcome of current and future efforts to follow OPEC's example as well as of the OPEC cartel's long-term development. Until then, however, some uncertainty about the impact of possible commodity cartelization upon resource availability remains, even if the probability is for less success than pessimists predict.* Moreover, attention to developing norms for access to supplies may serve to foster and legitimize the consumer resistance whose absence contributed significantly to OPEC's rise to power.**

Interdependence, Economic Power and
the Need for Norms

Recent years have seen the growth of security and economic interdependence among Western advanced industrialized countries. Periodic conflicts have been replaced by a "security community" within which the prospect of military conflict is no longer a prime concern. During the same time, changes in communication and transportation technologies

* Representative of the "commodity cartels debate" are C. Fred Bergsten, "The New Era in World Commodity Markets," Challenge, September/October, 1974, pp. 34-42; Stephen B. Krasner, "Oil is the Exception," Foreign Policy, No. 14 (Spring 1974), pp. 68-83; Bension Varon and Kenji Takeuchi, "Developing Countries and Non-Fuel Minerals," Foreign Affairs, Vol. 52, No. 3 (April 1974), pp. 497-510.

** See, Stephen B. Krasner, "The Great Oil Sheikdown," Foreign Policy, No. 13 (Winter 1973-74), pp. 123-138; M.A. Adelman, "Is the Oil Shortage Real? Oil Companies as OPEC Tax Collectors," Foreign Policy, No. 9 (Winter 1973-74), pp. 69-107, esp. 79-82.

have eroded the pre-existing fragmentation of factor markets among these industrialized countries, creating an "interpenetration of economies." Each development affects the dimensions of the access-to-resources problem.

On the one hand, reaction in both Japan and Western Europe to the imposition of a temporary embargo on soybean exports in June 1973 and to the general pattern of U.S. economic policy in the early 1970s indicates that economic issues are one of the most crucial sources of potential disruption of the Western Industrialized security community. Continued cohesion of the Atlantic Alliance and the U.S.-Japanese relationship depends partly upon how the issue of access to U.S. agricultural commodities is managed. On the other hand, the growth of economic interdependence, eroding national economic autonomy because of the sensitivity of domestic economies to actions and events in other countries, necessitates the creation of joint institutions and practices within which to harmonize national economic policies. Even granting that the United States is relatively less vulnerable to a disruption of interdependence relationships, an unscrambling of those relationships now would have important costs.* The development of norms for access to raw materials is necessary, therefore, lest a race for access, motivated either by

* On economic interdependence, see C. Fred Bersten, in association with John A. Mathieson, "The Future of the International Economic Order: An Agenda for Research," in C. Fred Bergsten (ed.), The Future of the International Economic Order (Lexington, Massachusetts: Lexington Books, 1973), pp. 1-59, esp. p. 1-33; Richard N. Cooper, "Economic Interdependence and Foreign Policy in the Seventies," World Politics, Vol. XXIV, No. 2 (January 1972), pp. 159-179; Edward L. Morse, "Interdependence in World Affairs" (Mimeograph).

fears of near-term vulnerability to supply interruption and uncertainty about the long-term availability or simply by erroneous calculations, eventuate in just such an unscrambling.

One final aspect of the contours of the access-to-resources problem should be noted. World politics has been dominated previously by questions of war and peace. The "soldier and the diplomat," to use Raymond Aron's summary, have shaped the ebb and flow of events. Two secular trends are likely to modify this preoccupation with military security in the next decades, thus causing new problems while creating new opportunities. First, as many have argued, an erosion of the traditional distinction between "high foreign policy" concerned with national defense and "low foreign policy" concerned with wealth and welfare is occurring. Put otherwise, economic issues and the question of international economic collective security will increasingly have to be dealt with in defining and pursuing international peace and order.* Second, although it appears somewhat extreme to conclude as Robert Hunter has done that "we are moving into an era dominated by economic power,"** it appears, nonetheless, that the decreasing utility of military power joined to the rise of economic issues to the top of foreign policy agendas augurs the increasing importance of economic power. From this dual perspective the question of access to resources, and particularly

*See, e.g., Cooper, "Economic Interdependence and Foreign Policy"; Edward L. Morse, "The Transformation of Foreign Policies: Modernization, Interdependence and Externalization," World Politics Vol. XXII, No. 3 (April 1970), pp. 371-392, pp. 377-383; Richard N. Cooper, "Trade Policy is Foreign Policy," Foreign Policy Number 9 (Winter 1972-73), pp. 18-36.

**Robert Hunter, "Power and Peace," Foreign Policy Number 9 (Winter 1972-73), pp. 37-54, p. 38. See also Seyom Brown, "The Changing Essence of Power," Foreign Affairs Vol 51, No. 2 (January 1973), pp. 286-299.

its current manifestation of how to react to the politically-motivated use of oil, takes on added significance. It represents the first arena within which U.S. foreign policy and the international community generally must begin coming to terms with both the problem of international economic collective security and the regulation of economic power.

III. ACCESS TO GLOBAL RESOURCES: EXISTING NORMS AND DIVERGENT POLICY PREFERENCES

To provide a foundation for delineation of a U.S. policy regarding access to supplies, it is necessary to examine the existing norms governing access to resources and to specify the range of policy preferences and goals which are involved.

Existing International Norms

Turning initially to the politically-motivated use of export controls, an examination of the relevant norms provided by Article 2, Paragraph 4 of the United Nations Charter, Declarations by the U.N. General Assembly, customary state practice, and treaty provisions leads to two conclusions: first, the normative status of attempts to influence other countries' domestic and foreign policies by export controls is somewhat more ambiguous than references to the Arab oil embargo as "economic warfare clearly in violation of international law" would claim; and second, there is, nonetheless, sufficient basis within existing international law from which a norm prohibiting such politicization of international economic interaction could be developed.*

The most obvious norm is expressed by Article 2, Paragraph 4 of the U.N. Charter:

All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any manner inconsistent with the purposes of the United Nations.

* As noted below, one of the most critical questions is whether U.S. raw materials policy should seek the depoliticization of export controls and trade.

The controversial question is whether "force" encompasses economic coercion. Even though the travaux preparatoires do not explicitly support their contention, many jurists claim that Article 2 (4) prohibits only "armed force."^{*} More importantly, among legal scholars who argue for a less restrictive interpretation, holding that Article 2 (4) was intended to prohibit more than the threat or use of a nation's organized military capability, there is disagreement. Ian Brownlie, for example, proposes that,

whilst it is correct to assume that paragraph 4 applies to force other than armed force, it is very doubtful ^{if} it applies to economic measures of a coercive nature.^{**}

To the contrary argue Jordan J. Paust and Albert P. Blaustein, following the McDougal-Lasswell approach with its attempt to distinguish permissible from impermissible coercion. They contend that when the Preamble and Articles 1 and 2 of the Charter are interpreted within a broader spectrum of U.N. Declarations, "it is now possible to see that the use of economic coercion can violate the Charter."^{***} Even in an international system in which some degree of coercion is unavoidable, Paust and Blaustein contend that a contextual analysis of a particular instance of economic coercion could indicate that it was so sufficiently intense and inconsistent with the purposes of the U.N. Charter as to fall under the Article 2 (4) prohibition. They claim, further, that the Arab oil embargo was such an instance.^{****}

^{*}See discussion by Ian Brownlie, International Law and the Use of Force by States (Oxford: The Clarendon Press, 1963), Ch. XX.

^{**}Ibid., p. 362.

^{***}Jordan J. Paust and Albert P. Blaustein, "The Arab Oil Weapon--A Threat to International Peace," American Journal of International Law Vol. 68, No. 3 (July 1974), pp. 410-439, p. 419; also see pp. 415-423.

^{****}Ibid., p. 431, pp. 426-438.

Among the U.N. Declarations to which Paust and Blaustein point to support their contention that Article 2 (4) encompasses more than "armed" force is the 1970 United Nations General Assembly Declaration of the Principles of International Law Concerning Friendly Relations Among States. This Declaration reads in part:

no State may use or encourage the use of economic, political, or any other type of measures to coerce another State in order to obtain from it the subordination of the exercise of its sovereign rights and to secure from it advantages of any kind.*

Notwithstanding this declaration, whether intense economic coercion such as the Arab "oil weapon" clearly violates existing international norms is still disputable. Assuming a violation of other parts of the Declaration on Friendly Relations or of the U.N. Charter, would economic coercion exercised in self-defense or as a reprisal be permissible? Depending upon the particulars of the situation, could it be claimed and recognized to be so? ** There is also legitimate doubt about the status of General Assembly resolutions and declarations as sources of international law. *** Finally, other General Assembly resolutions appear to erode the impact of the Declaration on Friendly Relations as a source of a norm prohibiting economic coercion. For example, in 1960 the General Assembly passed a resolution upholding "the sovereign right of every State to dispose of its wealth and natural resources." ****

*U.N. G.A. Res. 2625 (XXV), October 24, 1970, GAOR, 25th Sess., Supp. No. 28 at 122-24 (A/8028).

** See, e.g., Ibrahim F. I. Shihata, "Destination Embargo of Arab Oil: Its Legality Under International Law," to be published in American Journal of International Law (November 1974).

*** Louis Henkin, How Nations Behave (New York: Praeger, 1968), pp. 165-173.

**** U.N. G.A. Res. 1515 (XV), GAOR, 15th Sess., December 15, 1960.

And a 1972 resolution, after reaffirming both the right to control natural resources and the prohibition on measures of coercion, went on to declare "that actions, measures or legislative regulations by States aimed at coercing, directly or indirectly, other States engaged in... the exercise of their sovereign rights over their natural resources..." violated the Charter and the Declaration on Friendly Relations.^{*} This emphasis upon "full permanent sovereignty of every State over its natural resources and all economic activities" was restated in the 1974 General Assembly Declaration on the Establishment of a New International Economic Order.^{**} Certainly it could be claimed that the meaning of "sovereign rights" does not include actions which impede the development by other countries of their natural resources or which clash with the growing community emphasis upon cooperative action to promote community goals of increased human rights and welfare, economic development, and social progress. From this perspective the Arab use of the "oil weapon" or other instances of coercive manipulation of natural resources could be classified as detrimental to a more inclusive community approach to natural resource development and use.^{***} Nevertheless, noting this possible counterclaim does not resolve the issue; it serves only to indicate again the normatively ambiguous status of politically-motivated export controls.

^{*}U.N. G.A. Res. 3016(XXVII), GAOR, 27th Sess., December 18, 1972.

^{**}U.N. Monthly Chronicle, pp. 66-69, p. 67.

^{***}See Paust and Blaustein, op. cit., pp. 420-423.

This ambiguity is enhanced once customary state practice is examined. During the postwar era, the United States placed embargoes upon the sale of so-called "strategic" goods to the Soviet Union, the Chinese People's Republic, North Korea, North Vietnam, Soviet Bloc countries of Eastern Europe, and Cuba. The Export Control Act of 1949 authorized the President to prohibit or curtail exports "to further the foreign policy of the United States," to preserve "the national security" of the United States. This power to prohibit exports on grounds of U.S. foreign policy and national security was reaffirmed by the Export Administration Act of 1969. At the start of the Cold War era, moreover, the United States used its economic and military leverage, formalized in the Battle Act of 1951, to pressure its Western European allies to cooperate in this embargo policy. These countries did so for a time, passing appropriate domestic legislation or relying on pre-existing law. Nor has the political use of export controls been solely a Western practice. The Soviet Union has utilized trade restrictions against a range of countries including Yugoslavia, Albania, Finland, and China.*

Yet, to note, as has Gunnar Adler-Karlsson in his definitive study of the subject, that "the embargo policy has been worldwide,"** does not resolve the question of its normative status. International law cannot be equated simply with "what states do" if it is to retain its status as law. Without a sense of reciprocally binding obligation, customary

* For a brief summary, see Klaus Knorr, Power and Wealth: The Political Economy of International Power (New York: Basic Books, 1973), pp. 138-156.

**Gunnar Adler-Karlsson, Western Economic Warfare, 1947-1967 (Stockholm: Almqvist and Wiksell, 1968), p. 3.

state practice is only "the merely systematic exercise of power."^{*} Whether the postwar prevalence of export controls utilized for political purposes exemplifies the creation of a legitimizing norm or only state exercise of power within the interstices of the international legal system remains unclear.

One further relevant set of norms concerning export controls is the provision of the General Agreement on Tariffs and Trade (GATT). Article I contains the most-favored-nation treatment provision, formulating the basic principle of nondiscriminatory trading relationships. Article II prohibits quantitative restrictions on imports or exports by the use of quotas, licenses, or other measures, subject to stated exceptions. Article III requires that import or export restrictions be applied without discrimination against third countries. Article XXIV enumerates "general exceptions," including the right to take measures "relating to the conservation of exhaustible natural resources," and prohibits "arbitrary or unjustified discrimination between countries" in regard to such measures. Finally, of central importance to the problem of the normative status of export controls, Article XXIII declares that the preceding Articles should not be construed "to prevent any contracting party from taking any action which it considers necessary for the protection of its essential security interests...taken in time of war or other emergencies in international relations." Thus, although some would argue that the political use of export controls, and particularly the Arab oil embargo, violated the

^{*} Tom J. Farer, "Law and War," in Cyril E. Black and Richard A. Falk, The Future of the International Legal Order, Volume III: Conflict Management (Princeton: Princeton University Press, 1971), p. 21, pp. 20-21.

provisions of the GATT,^{*} it appears necessary to agree with Richard N. Gardner that "it is extremely difficult to discern any coherent guidelines for national policy."^{**} The sweeping "national security" exception of Article 21 serves to reinforce this conclusion.

The international legal status of politically-motivated manipulations of economic power and resource control thus continues to be a matter of much controversy. Even though a strong case could be made, based upon interpretations of existing norms, that such measures are prohibited, a counterclaim could be established and buttressed by other suitable references. That clear norms governing economic coercion do not exist should not be surprising, for, as William Coplin has noted,

To conclude that international law must adjust to political reality, therefore, is to miss the point, since international law is part of political reality and serves as an institutional means of developing and reflecting a ^{***}general consensus on the nature of international reality.

The norms governing politically-motivated export controls are ambiguous because consensus on the place of economic coercion as an instrument of stability and/or change within the present international system is lacking and divergent policy preferences exist. However, before examining those divergent preferences and interests, a brief consideration of norms concerning economically-motivated export restrictions is needed.

^{*}Pauc and Blaustein, op. cit., p. 426.

^{**}Testimony of Richard N. Gardner, Hearings, Joint Economic Committee, On Economic Impact of Petroleum Shortages, 93rd Cong., 1st Sess., December 13, 1973, pp. 156-161, p. 157.

^{***}William D. Coplin, "Law and International Politics," reprinted in Politics and the International System, Robert L. Pfaltzgraff, Jr. (ed.) (Philadelphia: J.B. Lippincott Co., 1972), pp. 524-561, pp. 560-561.

The main instrument regulating trading relations, including the use of export controls as an instrument of domestic economic policy, e.g., the June 1973 U.S. temporary embargo on soybean exports, is the GATT. As noted already, GATT provides a set of general rules to govern international trade, commits the contracting parties to lowering trade barriers, and contains procedures for settling disputes over its provisions and mechanisms for the controlled employment of economic sanctions. At the same time, GATT provides a series of permissible exceptions to its rules.* In addition to the "national security" exception of Article 21 noted earlier, several exceptions bear upon the issue of export controls for domestic reasons. Article 11 permits export prohibitions or restrictions "temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party." Article 20 allows for measures related to "conservation of exhaustible natural resources" and permits restrictions "essential to the acquisition or distribution of products in general or local short supply." Given these exceptions, the result is to "leave very little, if any, effective GATT policing of export control policy."** Thus, as in the case of politically-motivated export controls, the existing normative framework for the problem of access to supplies is inadequate to handle the problems likely to confront the international economic system in the coming decades.

* See, generally, John H. Jackson, World Trade and the Law of the GATT (New York: Bobbs-Merrill Co., 1972).

** Ibid., p. 502.

Access to Global Resources:
The Stakes

The stakes of the access-to-global-resources issue vary with the perspective adopted. An examination of how the issue looks to the United States, to other industrialized nations, to resource-rich LDCs, to resource-poor LDCs, and to a nascent international community indicates the choices and constraints to be dealt with by a set of guidelines for a U.S. approach to access to supplies.

To U.S. policymakers, the issue of access-to-global-resources is a multifaceted problem, diversely affecting a range of U.S. interests. First, as a resource importer, likely to depend in 1985 upon imports of nine of the thirteen basic minerals, excluding oil, critical to a modern industrial economy, the U.S. has a clear interest in assuring stable supplies of these resources. Abrupt supply shutoffs, whether for political or economic reasons, will disrupt the U.S. economy and slow economic growth. A preliminary FEA assessment of the impact of the Arab oil embargo suggests that it resulted in a \$10-20 billion slowdown of the U.S. economy and the loss of approximately 500,000 jobs.* Similarly, uncertainty about the possibility of such abrupt disruptions and about the difficulties of substitution of materials undermines the necessary stability of expectations. The result may be postponed investment decisions, under-utilized capacity, or speculative buying and price fluctuations. Finally, the United States, as an oil importer, has an interest in fostering OPEC policies more sensitive to the disruptive national and international consequences of excessively high oil prices.

* Federal Energy Agency, Impact of the Oil Embargo, (mimeograph).

Second, the emergence of the United States as the major residual source of agricultural exports also affects U.S. interests. From this perspective, access to supplies requires that the interests of other countries in stable availability of U.S. agricultural commodities be balanced against sufficient availability of supplies for the domestic market and moderate price stability of those domestic supplies and their products. Nor is this the case only with U.S. agricultural products. A comparable clash between the interests of foreign and domestic consumers is emerging over supplies of coking coal. Pressures for U.S. export controls on this raw material are also growing.*

Third, a U.S. approach to the issue of access-to-global-resources must not only take into account its divergent interests stemming from its position as both producer and consumer, but must also bear in mind that the United States is the leader of a security coalition among Western, advanced industrialized nations. Excessively narrow positions designed to protect U.S. producer interests can endanger alliance cohesion. For example, the disruptive impact of the June 1973 U.S. soybean embargo upon economic calculations in Western Europe and Japan was one further blow added to the "economic shock" of August 1971 in which poor handling of economic relationships eroded political solidarity. Nor are adverse political consequences absent in those areas where both the United States and its allies are interested in stable access at manageable prices to other countries' raw materials. Intra-alliance

* The New York Times, September 26, 1974.

clashes over the prospect of a future Arab oil embargo and with the economic repercussions of high oil prices during the past year indicate the possibility of conflict. Significantly greater Western European and Japanese relative dependence upon Arab oil imports, as well as the prior renunciation by U.S. allies of pretensions to a global foreign policy role, made these allies both far less ready to have a consumer-producer confrontation and far more willing to allow their foreign policies to be influenced by the Arab "oil weapon." As long as maintenance of a stable security relationship with these countries remains a U.S. interest, the impact upon alliance cohesion of approaches to the access-to-supplies issue will have to be weighed in the balance. Moreover, given its basic security interests in Western Europe, the United States must also be concerned about the implications of the four-fold increase in oil prices for European economic and political viability. Economic and political collapse in one or more of the weaker European nations would seriously affect the U.S. global security position and disrupt global economic interaction beneficial to the United States.

Fourth, the question of access-to-global-resources touches significantly upon the U.S. interest in countering threats to U.S. independence of action in world affairs. Absolute freedom of action is clearly unattainable. But heavy dependence upon foreign, potentially unstable, sources of critical resources would be an additional constraint. The prospect of a future oil embargo, for example, need not, as it did in 1973-74, lead to a forced reversal of U.S. policy; but it could lead to a slow, almost imperceptible erosion of past policy positions. A diffuse sense of vulnerability would affect U.S. policymakers much as

uncertainty about stable access would influence business decisionmaking. Furthermore, reduced U.S. vulnerability to resource blackmail and economic coercion remains an important U.S. Interest, given the probable effects were economic coercion actually to lead to a reversal of U.S. policy. More specifically, while the "limited adversary" relationship between the United States and the Soviet Union remains the "relationship of major tension," the stability of the international system depends heavily upon mutually accurate Soviet and American perceptions of how the other would react to increased activism and risk-taking. An abrupt or even a gradual U.S. policy shift induced by economic coercion would be likely to affect adversely that U.S. "reputation for action." Finally, succumbing to economic coercion would also entail sacrificing whatever specific interests were at stake in the particular clash of policies.

Fifth, if the access-to-resources issue is made more complex by the dual role of the United States as producer and consumer, it is complicated further by the fact that the United States has been a willing user of, not simply a potential victim of, economic coercion. Even as U.S. policymakers within the Executive Branch and Congress in 1973-74 were resisting Arab demands dealing partly with the "rights of the Palestinian people," Congress was utilizing the economic coercion of refusal to grant most-favored-nation treatment to Soviet products to change Soviet emigration policy. Recent studies have argued that the United States should manipulate its position as the major source of feed grain exports now that the Soviet Union is increasingly committed to development of its livestock herds to influence the contours of Soviet domestic

choices.* Thus, the access-to-global-resources issue raises the question of the extent to which a shift towards depoliticizing international economic dealings would mean sacrificing a valuable U.S. foreign policy instrument. If it would, whether such depoliticization should be the objective of U.S. policy is debatable.

Sixth, the access-to-resources question is also tied up with a broader U.S. interest in narrowing the gap between rich and poor nations. Support for the developmental efforts of the world's poorer nations rests upon a combination of concern about the conflict-producing potential of a growing North-South division, diffuse humanitarian instincts, and responsibility to ourselves as a nation and to what we would have the United States stand for in the world. The impact upon this interest of alternative approaches, of a niggling or a more community-minded balance between U.S. producer and consumer demands concerning agricultural exports, will not be insignificant.

A U.S. raw materials policy will have to take into account not only the preceding range of U.S. interests but those of other countries as well. Within the limited confines of this essay it is possible only to note briefly these other views of what is at stake.

For the other advanced, industrialized countries, access to scarce resources, as noted earlier, means stable access at manageable prices both to critical minerals such as oil and to U.S. agricultural products. When the executive commission of the European Economic Community calls

* See, e.g., William Schneider, Jr., Can We Avert Economic Warfare in Raw Materials: U.S. Agriculture as a Blue Chip (New York: National Strategy Information Center, 1974).

for agreement upon a "preventive system that will avert brutal ruptures in trade flows," it is referring to both the Arab oil embargo and the U.S. temporary embargo on soybean exports.*

To the resource-rich LDCs, however, such politically-motivated interruptions are not "brutal ruptures," but necessary means to redress the balance of power in pursuit of global justice. Thus, the legal advisor of the Kuwait Fund for Arab Economic Development proposes:

A general and absolute prohibition on the use of economic measures for political purposes in the international sphere is still an idealist's dream...Precluding such states from the use of their economic power in the settlement of political disputes before a general ban is imposed on armaments and in the absence of an effective collective security system could not serve the interests of international justice.**

Concomitantly, the drive for cartelization of LDC raw material exports and the threat of artificial supply reductions to influence prices is seen as a necessary step in "the ongoing confrontation between the dialectic of domination and plundering on the one hand, and the dialectic of emancipation and recovery on the other...."*** In contrast, the prospect of a U.S.-pursued linkage of agricultural exports and exports of LDC raw materials is regarded as a policy of confrontation rejecting "a desire for international cooperation."****

*Quoted in The New York Times.

**Shihata, op. cit.

***President Boumediene, "Statement on Raw Materials and Development," at the United Nations, April 10, 1974, reprinted in Survival, July/August 1974, p. 194.

****Ibid., p. 195.

For the resource-poor LDCs, the newly-named "4th world," access to resources is partly an attempt to avoid becoming "spillover victims" of politically-motivated embargoes or of cartelization and increased prices. Their potential conflict of interest with the resource-rich LDCs is tempered significantly, however, by vicarious identification with the resources power of those exporting countries. At the same time, access to supplies means access to U.S. food grains as insurance against crop failure and famine. In these countries as well, however, there is resistance to linking more stable and open access to U.S. agricultural commodities with more assured access to those natural resources vital to the advanced industrial economies.*

* See, Barbara Ward, "First, Second, Third and Fourth Worlds," Economist, May 18, 1974, pp. 65 ff.

IV. GUIDELINES FOR U.S. RESOURCES POLICY

The overall purpose of U.S. "resources policy" should be the gradual development of a system of international economic collective security. Such a system would comprehend norms and procedures within which to harmonize divergent claims to the world's resources and variously to regulate, rationalize, or limit the growth and/or effects of economic interdependence. Movement towards an international economic collective security system requires that three problems be handled: first, the coercive manipulation of economic dependency relationships, e.g., utilization of oil as a source of political power; second, decreased domestic economic autonomy in an era of the "interpenetration of economies"; and third, broad agreement upon a conception of global economic equity without which any economic collective security system will be subject to revisionist pressures from both poor and rich nations. As the preceding examination of alternative perceptions of the stakes involved in the access-to-resources issue would indicate, preferred solutions to these problems vary. The following proposes a set of norms and procedures, therefore, from a U.S. policy perspective, but one broadly rather than narrowly defined. This attempt to base a possible U.S. resources policy upon self-interest blended with a larger community perspective is in the tradition of much of Twentieth Century U.S. foreign policy.

Depoliticization of
International Resources Trade

In the midst of the Arab oil embargo Richard Gardner argued that,

At a minimum, the new rules (on export controls) should prohibit the use of export or other controls for political

purposes. A country would not be permitted to cut off or threaten to cut off exports in order to change another country's policies--although latitude might have to be granted to permit countries to restrict the export of weapons and national security information.*

From a community perspective the desirability of a norm acknowledging that in certain situations economic coercion via politically-motivated export controls is prohibited as impermissible coercion should be granted. In an era when increased interdependence may really mean increased dependence of one country upon another country's exports, "the threat or use of (armed) force" is no longer the only threat to "the territorial integrity or political independence of any state" or to "the purposes of the United Nations." Intense economic coercion may equally erode the freedom of choice of other countries while clashing with the broader community goals of reducing international coercion, promoting the peaceful settlement of disputes, and generally fostering international cooperation. Moreover, the growth of interdependence in the sense of increasing "interpenetration of economies" also points toward a community interest in the depoliticization of international economic interaction. As Edward Morse argues, "the higher the level of interdependence among political systems, the greater will be the ability of anyone to manipulate the internal affairs of others."** Manipulating interdependency-derived influence within another country's internal affairs may serve, however, to increase international tension and hinder cooperative relationships from developing. Reported Soviet resentment

* Gardner, op. cit., p. 158.

** Morse, "Interdependence in World Affairs," p. 49.

about U.S. manipulation of Soviet emigration policy by withholding M.F.N. status for Soviet exports should not be overlooked.* Nonetheless, to argue that a norm depoliticizing international economic dealings, particularly the use of export controls to gain political advantages, would be a desirable elaboration of existing international norms and purposes does not resolve the matter. Would U.S. interests be best served by support for such a norm? If depoliticization is desirable, but international agreement is unlikely to be forthcoming, should U.S. resources policy seek instead to foster a more limited consensus upon what types of politically-motivated manipulations of economic interactions are acceptable? Or should it pursue acceptance of the more restrictive norm, while acknowledging limits to its universality?

Acceptance by U.S. policymakers of a norm prohibiting the politically-motivated use of export controls as a coercive instrument would entail both a reversal of past practice and a willingness to forgo the possible political advantages that might accrue from the U.S. emergence as residual source of agricultural commodities. As noted earlier, U.S. cold war strategy included the embargo of sales of a broad range of "strategic" goods to the Soviet Union, the Chinese People's Republic, and various "Communist bloc" countries. Similarly, the United States in October 1960 embargoed trade with Cuba, while decisions made in 1962 prohibited imports of products of Cuban or partly Cuban origin.** But

* The New York Times, October 15, 1974.

** See, Anna P. Schreiber, "Economic Coercion as an Instrument of Foreign Policy: U.S. Economic Measures Against Cuba and the Dominican Republic," World Politics, Volume XXV, Number 3 (April 1973), pp. 387-413, pp. 387-389, pp. 405-408.

this U.S. manipulation of trading relationships was not motivated in all cases by cold war calculations alone. By closely controlling U.S. food aid to India in the mid-1960s, President Johnson sought to force a change in India's agricultural policies.* Between 1960-1962 U.S. economic policies were used in an attempt to end the Trujillo regime and then to support a more democratic regime in the Dominican Republic.** The record indicates, however, that each instance of economic coercion had an extremely limited, if any, impact. Economic development in the Soviet Union, China, and the Eastern European countries was not significantly impaired, and Soviet military power continued to grow. As for the economic boycott of Cuba, the growth of triangular trade and dependence on the Soviet Union neutralized many of its effects. In any case, Castro's policy was unaffected. Similarly, the modest success in the Dominican Republic was due as much to the threat of force were an anti-democratic coup to occur as to economic coercion against the Trujillo regime and in support of its successors. Finally, recent events call into question the long-term results of Johnson's pressures upon India's agricultural policies.*** In assessing the costs to the United States of a norm prohibiting future political use of export controls, this very limited success of such past efforts should be borne in mind.

By contrast, recent efforts to change Soviet emigration policy by linking M.F.N. status for Soviet exports to such liberalization appear

*See W.W. Rostow, The Diffusion of Power (New York: The Macmillan Co., 1972), pp. 422-423.

**Schreiber, op. cit., pp. 405-408.

***See Schreiber, op. cit., pp. 404-405, p. 413. Generally see Knorr, Power and Wealth, pp. 138-156.

to have been a more successful attempt to manipulate economic transactions for political purposes. More importantly, the United States emergence as the major residual supplier of agricultural commodities is seen by some as providing opportunities for the political manipulation of agricultural exports in support of U.S. foreign policy. Thus, William Schneider envisages, assuming proper preparatory measures, "the exercise of economic warfare in agricultural commodities as a routine component of U.S. diplomacy."^{*} According to Schneider, politically-motivated manipulation of agricultural exports would allow the United States, "to influence resource allocation within the Soviet economy" and otherwise demand quid pro quos from the Soviets.^{**} It would also constitute a multipurpose instrument in relations with various developing countries as a means of "improving [the U.S.] bargaining position vis-a-vis raw materials suppliers," "extracting military basing rights from otherwise reluctant nations," and "inhibiting alliances hostile to the interests of the United States."^{***} In view of such proposals, the benefit for U.S. interests of a norm prohibiting politically-motivated export manipulation is arguable. Its ultimate desirability depends, thus, upon how useful an instrument of U.S. policy the ability to manipulate agricultural exports would be and what the costs are to the United States of making "economic warfare in agricultural commodities a routine component of U.S. diplomacy."

^{*}Schneider, op. cit., p. 34.

^{**}Ibid., p. 37, pp. 35-43 generally.

^{***}Ibid., p. 39, p. 43.

Contrary to Schneider's argument, the potential usefulness of export controls over agricultural commodities for economic coercion is mixed. On the one hand, it may be acknowledged that the emergence of the United States as the major source of livestock feed grains is a source of possible influence over Soviet policy given the commitment, under Brezhnev's leadership, to a major increase in livestock production and to significant changes in the average Russian citizen's diet away from direct food grain consumption as a protein source. These goals will require large and continuing Soviet imports of U.S. feed grains, especially because in years of bad harvest--which have averaged one every three years over the past twenty years--the traditional remedy of livestock slaughtering and citizen belt-tightening is no longer available.* These factors do create a Soviet vulnerability to U.S. interruptions of agricultural exports.**

Nevertheless, it is somewhat less evident that the threat of a U.S. agricultural commodities embargo would be "a viable means of diplomatic influence" over various LDC's. Since much discussion of the "commodities weapon" has focused upon its potential impact in bargaining with raw materials producers, it is reasonable to consider how vulnerable to it the Arab oil-producing countries would be. In 1973 the Arab countries*** imported 2,250,000 metric tons of wheat from the

* See Douglas B. Diamond and Constance B. Krueger, "Recent Developments in Output and Productivity in Soviet Agriculture" In Soviet Economic Prospects in the Seventies, Joint Economic Committee, U.S. Congress, June 27, 1973, pp. 316-339.

**The relative costs-benefits of manipulating that vulnerability are discussed below.

***Egypt, Sudan, Libya, Morocco, Algeria, Tunisia, Lebanon, Syria, Saudi Arabia, Iraq, Yemen, Oman, Qatar, UAE, Kuwait.

United States.* While these imports comprised 13.3 percent of their total supply, imports from the United States represented only 3.2 percent of a total world wheat market of 69.6 million metric tons. Specifically, Saudi Arabia and Algeria are both heavily dependent upon imports from the United States. Thus in 1973 the United States supplied 225,000 metric tons of wheat and wheat flour to Saudi Arabia or 63 percent of total Saudi imports, and 575,000 metric tons to Algeria or 51 percent of total Algerian imports. It is necessary, however, to compare these import figures to the size of the world wheat and wheat flour market which in 1973 was 69.8 million metric tons and to U.S. wheat and wheat flour exports in the same year of 31.0 million metric tons. The vulnerability of countries such as Algeria and Saudi Arabia depends, therefore, upon whether a cut-off of U.S. exports could be compensated for by purchases from other suppliers. Given the relatively small proportion of the world wheat market represented by Saudi and Algerian imports and their ability to use their oil revenues to outbid other potential customers, it is reasonable to conclude that a shift to alternative suppliers would be feasible. Nor, without significantly improved U.S. controls over and monitoring of export destinations and transshipment, could the possibility of Arab purchases of U.S. grain via anonymous middlemen be precluded.**

*This and the following figures are from U.S. Department of Agriculture data supplied in Foreign Agricultural Trade of the United States, Economic Research Service, U.S. Department of Agriculture, 1974; Data and Analysis Concerning the Possibility of a U.S. Food Embargo as a Response to the Present Arab Oil Boycott, prepared for U.S. Congress, House, Committee on Foreign Affairs, 1974.

**Movement to such control seems to be taking place in the wake of recent Soviet efforts to purchase unexpected amounts of U.S. feed grains. The New York Times, October 10, 1974.

The situation for U.S. rice exports is only slightly different. Among the Arab countries Saudi Arabia alone is heavily dependent upon the United States. In 1974 it imported 250,000 metric tons of rice, including 125,000 tons from the United States. Since Saudi Arabia produces virtually no rice of its own, U.S. imports equalled 50 percent of Saudi rice requirements. Unlike the world wheat market, however, the world rice market is relatively small (7.4 million metric tons in 1974) in comparison to Saudi imports. Even so, use of a "rice lever" is limited both to the ability of Saudi consumers to switch from rice to wheat as India did in 1973 or once again to barter her high-priced oil for rice.

Thus, to have a chance of success an agricultural food exports embargo would have to include not only U.S. supplies, but also those of the other major exporters of wheat and wheat flour, of Australia, Canada, Argentina, France, and to a lesser degree the U.S.S.R. A joint embargo by the major Western exporters is highly unlikely for a variety of reasons, not least of which is the relatively greater vulnerability of the other Western countries to Arab oil countermeasures. Even assuming a Western embargo, purchases could still be made from the Soviet Union, Argentina, and smaller exporters. With regard to LDC producers of other raw materials, the situation appears comparable. Countries such as Jamaica (bauxite), Morocco (phosphates), Malaysia and Thailand (tin), or Brazil and Gabon (manganese) are either not dependent on U.S. agricultural exports or not sufficiently dependent in comparison to the size of the world market to make the threat of a U.S. export embargo an

adequate deterrent.* Thus, the potential utility of manipulating agricultural exports as a bargaining instrument vis-a-vis LDC raw materials producers is open to serious question.

And the probable costs of such an approach aimed at either the Soviets or selected LDC's are strong reasons for believing that U.S. interests would be served better by a norm depoliticizing such international transactions. First, as already noted, the recent Congressional usage of M.F.N. status for Soviet exports to the United States to influence Soviet domestic policies has created bitterness and resentment within the Soviet elite. A more far-reaching attempt to link continued Soviet access to the U.S. agricultural market with Soviet political quid pro quos or to refuse access in order to influence Soviet resource allocation or to erode the political position of existing leaders would create even more displeasure. As Schnelder notes, manipulating agricultural exports is a form of economic warfare. Granting the need to avoid exaggerating what detente means from a Soviet perspective, it is nonetheless the case that such U.S. economic coercion would run counter to attempts at rationalizing the "limited adversary" relationship between the United States and the Soviet Union. Conservative forces within the Soviet leadership skeptical about the possibility of finding areas of overlapping U.S.-Soviet interest would find their position strengthened, particularly since the Brezhnev leadership has stressed the economic gains of detente. Moreover, the state of mind

* See data in Foreign Agricultural Trade of the United States on exports to particular countries.

likely to develop on both sides from U.S. economic warfare would be hardly conducive to arms control negotiations. In so far as such agreements and a more diffuse movement towards more stable rules regulating Soviet-American global interaction is in the U.S. interest, the costs of economic warfare of the type Schneider discusses outweigh the putative benefits.* Second, were this worsening of U.S.-Soviet relations to occur, one side effect is likely to be increased intra-alliance tensions because the other members would see U.S. policy as an anachronistic throwback to cold war policies and because it would run counter to that gradual "all-European reconciliation" to which governments and publics had been committed. Third, and perhaps most importantly, a U.S. policy of trying to employ a "commodities weapon" would preclude efforts to depoliticize trade and access to raw materials.

In contrast, why U.S. Interests would be better served by a norm prohibiting politically-motivated export controls should be briefly elaborated. To begin, even were raw materials producing LDC's to violate that norm, the United States would be in a better position to take retaliatory action. An international standard by which to defend and legitimize U.S. actions would help to minimize both the international and domestic repercussions of a confrontation with producing countries. This could be particularly helpful were the United States, in the midst of a future Arab oil embargo, to conclude that only the threat or use of military force could alleviate the embargo's destructive impact. Were

* Conversely, were Soviet actions to indicate a lack of serious commitment to arms control agreements and stabilizing the U.S.-Soviet relationship, economic warfare might be appropriate. But, in that case the overall framework would have shifted back to that of the cold war.

the United States itself engaged in economic warfare, it would be far more difficult to neutralize liberal dissent within the United States to such measures. Moreover, by reducing uncertainty about possible future artificial interruptions of resources flows, a norm depoliticizing such transactions would reduce as well the likelihood of a drive for bilateral preferential arrangements between consumers and producers. Within limits, bilateral connections supplementing a joint approach among industrialized countries to access to resources need not be destabilizing. The repercussions would be serious, however, were the bilateral approach to degenerate into a neo-mercantilistic struggle to tie-up resources by outbidding one's neighbors. Such an exaggerated defensive reaction to reduce one's own vulnerabilities regardless of the impact upon other countries would probably eventuate in a costly unscrambling of interdependency in a range of areas, and not only in energy. At the least it would seriously impede efforts to rationalize interdependency relationships and weaken cohesion within both the Western alliance and the European community. Finally, as argued at the beginning of this section, movement towards a norm depoliticizing export controls and access to supplies would serve broader community purposes by reducing the resort to coercion in international affairs. Support for that purpose has been a continuing feature of U.S. foreign policy throughout this century, and has reflected both the premise that U.S. security would be greater within a less coercive international system and the belief that a foreign policy animated simply by narrow self-interest would fail to reflect that image of the United States which claims a unique and ameliorative role for the United States in world affairs. When, as here, this belief in a larger

American interest is not incongruent with more limited calculations of U.S. interests, it reinforces the argument for U.S. pursuit of a norm depoliticizing access to global resources.

On balance, therefore, U.S. interests would be better served by a norm barring politically-motivated export controls than by continued normative ambiguity regarding economic coercion. The possible benefits to the United States of a policy of manipulating agricultural exports are outweighed by a variety of considerations. Not the least of these is the handicap such a U.S. policy would represent for mobilizing support, especially within the United States, to buttress a counter-coercive set of retaliatory actions during, for example, a future Arab oil embargo.

But to argue that a norm depoliticizing international economic trading transactions is desirable from a U.S. perspective is far from proving that it is likely to come about in the near term. The opposition, noted earlier, to such a norm among both the resource-rich LDC's and their "fourth world" supporters makes its quick and easy establishment most unlikely. With the depoliticization of access to supplies desirable but presently infeasible, U.S. policy confronts two alternatives. It could seek to foster an international consensus delimiting those few purposes for which politically-motivated export controls would be deemed legitimate, a policy of "limited depoliticization." Or, it could argue instead for the more sweeping prohibition even if a consensus is not forthcoming.

There are several reasons to conclude that the latter alternative should guide U.S. policy. To begin with, it is impossible not to believe that whatever framework of norms regulating the limited

depoliticization of international economic transactions which emerged would not allow for repeated use of the Arab "oil weapon." The balance of global forces which makes general depoliticization infeasible equally makes that outcome a certainty. Thus, by going along with efforts to establish limited depoliticization, the United States would also find itself less able to take retaliatory measures needed to protect U.S. interests. Even ambiguous normative guidelines not necessarily universally accepted which would allow U.S. policymakers to claim the illegality and illegitimacy of the "oil weapon" are to be preferred to more limited and accepted norms which legalize in certain situations that weapon's use. In this case "second best" is not a partial regulation of export politics. Also, the types of exceptions likely to emerge in a limited depoliticization norm are very likely to be meaningless, dangerous, or both. One possible exception would allow economic coercion in self-defense against lesser threats than the armed attack of Article 51 of the U.N. Charter. Given the vagueness of "self-defense" in international law, it is hard to see how this exception would comprise an uncontroversial standard. Another possible exception would demand a "legitimate purpose" to justify such measures.^{*} But, who and what will define "legitimate"? The pitfalls of auto-determination need not be elaborated. Still another exception might combine attempts to define legitimate purposes with a rule that the economic coercion must both be necessary for pursuit of that purpose and proportional to the values at

^{*}Shihata, op. cit., argues for this interpretation and includes the October 1973 oil boycott.

stake. This formulation, however, only shifts the controversy to what is necessary and proportional. Or, it might be agreed that politically-motivated export controls are legitimately directed at primary opponents but not at secondary ones, much as domestic law prohibits secondary boycotts. But, to take the "oil weapon," its spillover effects and the probable response of the oil multinationals in spreading the impact of an oil embargo irretrievably muddy any such distinction.

More importantly, perhaps, any one of the preceding exceptions would be dangerous from the perspective of U.S. interests. Again, they all make U.S. retaliation more difficult to undertake by legalizing raw materials coercion in loosely defined and readily manipulable circumstances. Moreover, the final exception distinguishing primary from secondary targets is especially undesirable because its most probable effect would be to weaken further the cohesion among the advanced, industrialized nations.

For the preceding reasons, therefore, U.S. policy should not support efforts to formulate agreement on the limited depoliticization of access to supplies. Even though success is unlikely, U.S. articulation of a norm generally barring political coercion via export controls over scarce raw materials is more in accord with a full range of U.S. interests. And again, not least important of those interests is the creation of a normative climate within which U.S. policymakers could justify domestically U.S. counter-coercion if necessary.

Rationalization of Interdependence:
Export Controls and Economic Necessities

The postwar growth of economic interdependence has eroded national autonomy: increased interpenetration of national economies handicaps national efforts to achieve a broad range of social and economic objectives. Recently its disruptive domestic effect has become clearly evident in the area of U.S. agricultural commodity exports. For the U.S. the position of residual supplier has meant steadily rising domestic prices, the possibility of inadequate supplies to meet domestic needs, and, generally, a vulnerability to unpredictable fluctuations abroad. As for the future, the prospect of periodic external shortages or surpluses in an unregulated global free-market structure raises serious problems for the United States. Movement towards global economic collective security requires, therefore, that trade in agricultural commodities be rationalized. At the same time, the norms developed here can serve as potential guidelines in other areas where efforts to rationalize interdependence are needed.

The alternative to norms harmonizing the interests of producing and consuming countries would be what Richard Cooper labels a "defensive response." It entails "attempts to reduce economic interdependence by preserving or restoring the fragmentation of markets in order to retain some economic autonomy."^{*} A defensive U.S. response which sought to reinsulate the U.S. domestic market without taking into account the interests of those countries which had become dependent upon that market

^{*} Cooper, "Economic Interdependence and Foreign Policy," p. 169.

could well foster more widespread unscrambling of interdependency relationships, including security relationships. Narrowly self-interested U.S. export controls over agricultural products would foster conflict and disunity among the United States, Japan, and the Western European countries. More importantly, failure to find mutually acceptable norms of access to these exports would increase existing uncertainties about access to supplies of future scarce resources. In so doing, it increases the probability of efforts to assure such access either by competitive bilateral scrambling or by bloc-wide preferential agreements. Either would have appreciable economic and political costs.

Rationalization of interdependence in U.S. agricultural commodities would require both the creation of a world food reserve system and agreement upon the norms and procedures governing controls upon exports. On the one hand, a world reserve system in which both importers and exporters agree to hold minimum stocks of food and feed grains, buying in times of relative surplus and selling in times of relative scarcity, would help stabilize the world agricultural market and provide insurance against serious famines. Spreading the burden and responsibility among nations represents a more equitable solution than postwar reliance on the United States as the source of reserves. The latter is in any case no longer politically acceptable to the United States, nor perhaps to potentially needy countries such as India. The world reserve system would create a relative balance between supply and demand and make the U.S. position as residual supplier far more tolerable in terms of domestic impact. It could both meet the needs of potential customers in times of shortages and control the impact upon the U.S. price structure of such unpredictable

imbalances between production and consumption. Similarly, by purchasing in times of unpredictable surplus years, it would stabilize price fluctuations, avoiding precipitous drops in the price of agricultural commodities just as the availability of reserves to sell would prevent sharp increases.*

On the other hand, agreement upon the norms and procedures regulating agricultural export controls is also necessary. Not only may the development of necessary world reserves be delayed, but for some agricultural commodities, e.g., soybeans, in which breakthroughs in yield per acre as were achieved for wheat and corn have yet to be duplicated, increasing demand means continuing tight supply. As long as the primary responsibility of the U.S. government is to foster the well-being of U.S. citizens, the starting point of any set of norms and procedures regulating access will and should be domestic requirements.** What is not clear is how much priority is to be given to meeting domestic requirements as opposed to meeting those requirements after foreign demand has bid up the price and reduced domestic demand. One approach would be to allow export controls, but only after a moderate upward shift in prices had reduced domestic demand and increased the proportion of supplies available to foreign buyers. At issue is the percentage price increase after which domestic priority would be determinative.

This still leaves the question of regulating the allocation of export-controlled products among alternative foreign purchasers. There

*For a more complete discussion see, Brown and Eckholm, op. cit.; Cochrane, op. cit.; Schertz, op. cit.

**The question of emergency food aid for famine relief is discussed in the next section. It is suggested that such demands upon U.S. agricultural commodities be regarded as equivalent to domestic demand.

seems little reason to take issue with an emphasis upon meeting the requirements of traditional purchasers first. By doing so, the disruptive impact is minimized since those countries which have come most to depend upon access to the supplies are least affected. Further, minimizing the disruptive impact requires, however, development and agreement upon procedures governing the resort to such controls. Continuing exchange of information about commodity supply and demand and consultation and advance warning about how much of an upward shift in prices from foreign purchases will be accepted are needed. The critical purpose of such procedures should be to avoid shattered expectations. For example, a key criticism of the June 1973 U.S. temporary soybean embargo was that it abruptly changed the market situation, undoing decisions and plans made under a different set of expectations. Future resort by the U.S. to export restrictions may be necessary, but the disruptive impact of restrictions should be minimized by providing warning signals to those likely to be affected. Concomitantly, procedures regulating access to supplies should require potential buyers to provide information so that U.S. policymakers have sufficient data to foresee and forewarn. Generally, means and rules to foster stable expectations about supply and demand for all parties are needed.

Turning to the question of access to supplies of other raw materials and commodities, several additional points may be made. Much as rationalizing interdependence in U.S. agricultural transactions points to the need for a reserve system within which to stabilize price fluctuations, it is necessary to consider means of stabilizing trade in other raw

materials and commodities. For example, from the viewpoint of copper-producing countries the recent wide price fluctuations are undesirable. U.S. policy should accept stabilizing trade in such raw materials as a concomitant of stabilizing trade in commodities of interest to the United States. Both come within the broader rubric of international economic collective security. Moreover, regarding access to supplies of non-renewable resources, a norm allowing export restrictions designed to regulate reasonably the rate of utilization is legitimate. But, as with agricultural commodities restrictions for conservation purposes need to be accompanied by procedures designed to allow purchasers to adjust their policies. Abrupt changes would, therefore, violate the obligations of resource producers to resource consumers.

To sum up, reaching an international consensus upon norms and procedures for regulating economically-motivated recourse to export controls should not be an impossible undertaking. A normative framework which emphasized the legitimacy of export restrictions when needed to satisfy domestic needs at moderately stable prices or for conservation, but which made recourse to controls conditional upon fulfilling procedures designed to require explanation or justification, minimize abruptness, and recognize the dependency of traditional buyers represents one framework for balancing producer and consumer interests. When accompanied by measures to smooth out the market, e.g., a global food and feed grains reserve system or commodity stabilization agreements, these norms and procedures would contribute significantly to rationalizing access to supplies in an interdependent economic order. This overall framework would contribute thereby to increased global economic security.

Towards a Conception of Global Economic Equity

Underlying any security system is a given status quo which that system seeks to maintain. Past experience with political-military collective security systems has demonstrated repeatedly that lack of agreement upon what is to be secured--the peace that is at stake--is their main weakness. This means that future global efforts to articulate and manage a system of collective international economic security must be accompanied, if not preceded, by efforts to foster agreement upon a more equitable conception of world economic interaction beneficial to all. It will have to satisfy the demands for international economic equity of both the LDC's and the developed countries. On the one hand, it will be necessary to enhance that emerging global commitment to the economic, social, and political development of both the "3rd" and "4th worlds." Efforts to narrow the gap between rich and poor nations, to develop and support an inclusive approach to global welfare which recognizes, as one U.N. declaration put it, that "economic and social progress is the common and shared responsibility of the entire international community,"^{*} would be one component of the emerging structure. On the other hand, movement towards a structure of global economic security cannot be defined simply in terms of increased redistribution between rich and poor nations, as an effort to further the rights and satisfy the needs of only one portion of the world community. An inclusive approach to global equity would require recognition of both the economic necessities and responsibilities of all nations. Regardless of recent efforts by both resource-rich LDC's and the UNCTAD Group

^{*}Quoted by Paust and Blaustein, op. cit., p. 421.

of 77 to establish a narrow approach to international economic security, a broader meaning needs to be given to the U.N. declaration that

every country has the right and duty to develop its human and natural resources, but the full benefit of its efforts can be realized only with the concomitant and effective international action. [*Italics added*]*

To paraphrase Robert Hunter, the answer given to the question "Whose economic peace?" must be not the developed countries' peace, nor that of the LDC's, but both. Otherwise, whatever economic order emerges will be based solely upon the relative balance of power and subject to continued revisionist pressures from dissatisfied countries.

From the perspective of U.S. "resources diplomacy," a U.S. commitment to international economic security grounded in an inclusive conception of global equity would require support for the following guidelines. First, U.S. policy should accept a broad, though not the sole, measure of responsibility for supplying food aid on concessional terms to famine-threatened LDC's. In so doing, it should clearly argue that such aid is an acknowledgment of the need for a cooperative international approach to economic security, thus setting up a framework within which to call for concessions in other areas, especially energy. As has been proposed frequently, a U.S. reserves program should treat such supplies as the equivalent of supplies for domestic needs. Similarly, U.S. reserves policy should take the opportunity to support the inclusive conception of global equity by articulating the principle of burden-sharing and by requiring contributions from other developed countries and resource-rich LDC's.

* Ibid.

Second, international collective economic security requires that resource-rich LDC's consider the impact of their raw materials development, utilization, and pricing policies upon other countries. Global economic equity requires that the legitimate interest of oil-producing countries in higher prices, particularly given past inequities, be tempered, nonetheless, by consideration of the effects abroad of the four-fold increase of oil prices. Raw materials prices which vitiate the development efforts of resource-poor LDC's and which gravely threaten the economic and political stability of the advanced industrialized countries challenge the community commitment to economic equity and security.* U.S. raw materials policy should challenge the legitimacy of such exclusivist manipulation of economic dependency. In so doing, it should clearly link together food and fuel. Notwithstanding the resistance among resource-rich and resource-poor LDC's to such a linkage, both issues are cases in which narrowly self-interested policies threaten broader community purposes and in which exclusivist policy takes from the well-being, both present and future, of other countries.

Third, U.S. policy would recognize that a more equitable international economic order would have to find means of handling the related problems of the LDC's terms of trade and access to markets. Although the Shah's proposal of indexing oil prices to the rate of inflation of developed countries' exports appears likely further to institutionalize inflation, the problem to which the proposal points cannot be dismissed

* On the impact of oil prices see World Bank, Annual Report 1974, esp. pp. 5-13; OECD, Economic Outlook, July, 1974.

out of hand. One possibility would be to trade-off stable oil prices at \$6-8/barrel for agreement among the advanced industrialized nations to take hard anti-inflation measures much as the IMF has frequently demanded an internal economic quid pro quo or as West Germany required when lending money recently to Italy. Failure to take such measures would free the oil-producing countries from any responsibility not to seek off-setting price increases. A global agricultural reserves system which stabilized the price of food and, with time, feed grain exports to these countries would also be helpful. As for non-oil-producing countries, price stabilization agreements designed to avoid erratic price fluctuations* and allowing for gradual upward price movement also come within the rubric of global equity. Similarly, implementation of present rhetorical support among developed countries for preferential access to LDC non-raw material exports is needed.

Among the resource-rich LDC's there has been an unwillingness to accept any linkage between dealing with the world food situation and the price-of-oil problem. U.S. assertions of such linkage have been seen as callous attempts to utilize the U.S. position as a major agricultural exporter to U.S. advantage in other arenas. The preceding analysis indicates, however, that food and fuel are linked to one another much as they are linked to questions of terms of trade, commodity stabilization measures, and preferential trading agreements. All are aspects of a community approach to global economic equity, to regulating the

*E.g., the price of copper has fluctuated from 60 cents per pound in August 1973 to \$1.40 per pound in June 1974 to 60 cents per pound in September 1974.

utilization of the globe's resources so as to allow every country, poor and rich, to develop its natural and human resources. Moreover, within the broader framework of a system of international economic collective security this movement towards global equity is joined to the need for international agreement depoliticizing access to supplies and for measures rationalizing recourse to export controls for non-coercive purposes.

It remains to examine in conclusion how a U.S. raw materials policy might pursue these various but interrelated objectives. Interwoven throughout that examination is an assessment of the options open to U.S. policymakers for deterring or responding to renewed Arab use of the "oil weapon."^{*}

^{*}For reasons given above it is held that yielding to oil coercion is not in U.S. interests. Thus, the option of responding by "giving the Arabs what they want" is not considered below.

V. PURSUING A GLOBAL ECONOMIC SECURITY SYSTEM

Analysis and evaluation of the means by which U.S. policy-makers might pursue the postulated three-fold goal of U.S. raw materials policy requires examining four alternative approaches. Depending upon the particular issue and the response of other countries, U.S. policymakers could choose among: right reason and diplomatic initiatives; efforts to decrease U.S. vulnerability to disruption of a given interdependency relationship; actions designed to manipulate or transform the pattern of interaction within a single issue-area; and attempts to manipulate other countries' vulnerabilities in related issue-areas.*

Right Reason and
Diplomatic Initiatives

The "right reason-diplomatic initiatives" approach attempts to convince other nations by rational argument that their long-term interests would be served best by mutual accommodation within a structure of international economic collective security. As utilized in recent months by U.S. policymakers, this approach has encompassed several elements. First, it has included frequent references to the dire consequences in an era of increasing economic interdependence of continued high oil prices and of exclusivist definitions of global equity. Speaking at the United Nations, Secretary of State Henry Kissinger thus warned:

The increasingly open and cooperative global economic system that we have come to take for granted is now under unprecedented attack. The world is poised on the brink of a return to the unrestrained economic nationalism which accompanied the collapse of economic order in

*Among the alternatives examined under this approach is recourse to military intervention as either an anti-OAPEC or an anti-OPEC measure.

the thirties. And should that occur, all would suffer-- poor as well as rich, producer as well as consumer.**

Second, the right reason approach has emphasized both that the politicization of access to supplies runs counter to a cooperative approach, threatening instead a return to neo-mercantilism, and that talk of an oil embargo is unwarranted given U.S. diplomatic efforts to secure a Middle East peace agreement, much as its continuation after adoption of a more even-handed U.S. policy in October-November 1973 was "inappropriate."*** Third, rejecting a U.S. role as "the world's sole holder of food and feed reserves," the right reason approach calls for cooperative, burden-sharing arrangements, including contributions by the oil-producing countries, to develop sufficient world food reserves to assure adequate supplies in times of scarcity.***

The limits to the right reason-diplomatic initiatives approach are clearly revealed, however, by its lack of success in the energy issue-area. The Arab oil-producing countries remain committed to a renewed oil embargo against the United States should a new Middle East war erupt.**** Alternatively, the record of the past months is one of continuing Saudi references to the desirability of an oil price decrease, but also of repeated unwillingness to take the necessary actions.***** Other OPEC

*The New York Times, September 27, 1974.

**Secretary of State Kissinger, joint news conference with William Simon, January 10, 1974, The New York Times, January 11, 1974.

***See, e.g., Secretary of State Kissinger, statement at World Food Conference in Rome, Italy, November 5, 1974, The New York Times, November 6, 1974.

****See, e.g., statement of Sheik Yamani, The New York Times, October 4, 1974.

*****See The New York Times, October 14, 1974, for a recent statement by King Faisal to Secretary Kissinger to that effect. Conversely, on limited Saudi action, including cancellation of the long-awaited August oil auction, see The New York Times, October 16, 1974.

members such as Iran and Venezuela have been even less swayed by "catastrophe jaw-boning" and speak instead of justifiably high oil prices and the prospect of future increases.* Nor have U.S. efforts to articulate the more inclusive conception of global equity found favorable response among the resource-poor countries. The latter so-called "4th world" countries continue to define the equity problem simply in terms of increased aid from the "old rich" and not from both the "old rich" and the "newly rich" oil-producers. They resist, also, as noted above, any linking of food and fuel issues.

Similarly, U.S. efforts to establish acceptable procedures governing Soviet access to U.S. feed grains appear to have been less than successful. Recent Soviet attempts to purchase over 3 million metric tons of feed grains may very well have violated prior diplomatic understandings, while Soviet reluctance to supply necessary agricultural data remains unaffected by continuing U.S. diplomatic importuning.**

This limited impact of the right reason-diplomatic initiatives approach should not be surprising. Given the broad range of divergent interests tied up with the access-to-resources issue and noted earlier, right reason alone is unlikely to produce an international consensus dealing with the several facets of this issue. Although U.S. policy should continue to pursue its "resources diplomacy," its success will probably depend more often than not upon whether it is buttressed by other modes of action.

*See, e.g., The New York Times, September 27, 30, 1974; October 4, 1974.

**The New York Times, October 9, 1974.

Decreasing U.S. Vulnerabilities

One such buttress, particularly relevant in regard to politicized access to supplies of other raw materials, would require decreasing U.S. vulnerability to supply interruptions. A renewed and serious commitment to self-sufficiency could make the United States essentially independent of energy imports by the late 1980s. Alternatively, Barry M. Blechman and Arnold Kuzmack argue that at a cost of about \$1.5 billion per year the United States could create a sufficient oil stockpile to allow it to dispense with Arab oil imports for a year by 1985, assuming demand reduction.* But given the international economic repercussions of dependence on high-priced Arab oil and the fact that relative energy self-sufficiency would eliminate vulnerability once and for all, pursuit of self-sufficiency is to be preferred. And, as argued above, not succumbing to such economic coercion serves U.S. interests, narrowly and broadly defined.

Over the near-term and the immediate future, however, the measures available to U.S. policymakers for decreasing vulnerability are more limited. Accelerated pursuit of self-sufficiency would take 2-3 years to reduce U.S. oil imports from their present level of six million barrels per day. The impact of conservation measures, e.g., a 30 cents per gallon tax on gasoline, would be felt more rapidly, but could only be taken so far before they began to cut into essential economic activities. In assessing the effects of such actions, it can be recalled,

*Martin Blechman and Arnold Kuzmack, "Oil and National Security," Naval War College Review, Volume XXVI, Number 6 (May-June, 1974), pp. 8-25, pp. 18-21.

**See The New York Times, September 21, 1974.

however, that the Arab oil embargo of winter 1973-74 resulted in only a 2.5 million barrels per day reduction of U.S. consumption but nonetheless had a relatively serious impact according to the FEA study cited earlier.

Recent attention has focused upon the newly created 12-nation oil-sharing plan as a means to reduce vulnerability. This plan would commit the United States, Japan, Canada, and the Common Market countries, minus France, to a range of common action in the case of a future Arab oil embargo. Both domestic and imported oil would be pooled automatically once reduction in supply to one member or to the group as a whole dropped below 7 percent. Another part of the plan calls for national oil stockpiles equal to 60 days' consumption.* Given recently reported decisions by the Arab oil-producing countries, the main effect of this oil-sharing arrangement may be the probability that a future Arab oil embargo will not be a selective embargo as was the October 1973 embargo.** But if these reports are borne out by events, the Arab oil-producers paradoxically may have outwitted themselves. By greatly intensifying the "oil weapon's" destructive impact upon both friend and foe, the producers may engender a climate within which military retaliation becomes a thinkable option. In this light the oil-sharing plan is not simply a buttress to U.S. diplomatic efforts but a preparatory step before recourse to coercion. Undoubtedly, however, neither the Arab oil-producers nor the energy coordination group countries will have so intended it in advance of unfolding events.

*See The New York Times, September 21, 1974.

**Newsweek, November 11, 1974.

But assume that the Arab oil-producing countries attempt a more selective and/or limited use of the "oil weapon." This could take the form of total embargoes against selected countries, production cutbacks aimed at all the energy group countries, a general global cutback, or some variant of any of these. In these cases the oil-sharing plan would perform much the same role that the oil multinationals did in the winter of 1973-74 when they allocated oil among countries as a percentage of past supplies. As a device for equalizing the burden of Arab oil coercion, the oil-sharing plan differs significantly, nonetheless, from multinational company action in that it would shift both domestic and non-Arab imported oil. Unclear, however, is how much of a burden each member would bear. More importantly, what makes such oil-sharing an ineffectual deterrent of and only a partial response to the Arab "oil weapon," is that even with such burden-sharing the eventual cost may be too high for some countries to bear. Yet, it is just that possibility which makes the Arab oil-producers unwilling to sacrifice potential power by agreeing to a norm depoliticizing access to supplies. Taken together, these two factors require that U.S. policy seriously consider additional responses to the Arab "oil weapon" discussed below.*

Manipulating or Transforming Existing Patterns of Interaction

Turning to cases in which U.S. raw materials policy could attempt to manipulate or transform a given pattern of economic interaction in

* U.S. measures to decrease U.S. vulnerability to other possible future raw materials cartels are discussed below in the context of an anti-cartelization strategy.

support of the preceding system of global economic security, a broad range of actions is possible. First, although as argued above both the feasibility and advisability of political manipulation of its role as residual supplier within the structure of world agricultural interaction are questionable, this need not preclude U.S. efforts to utilize its role to help rationalize agricultural commodity interdependence. Having sold off past reserves, U.S. policymakers can now buttress right reason's case for a burden-sharing global reserve system by making future formation of U.S. reserves conditional upon action by other countries. Alternatively, to reinforce diplomatic efforts to gain Soviet adherence to procedures regulating the supply of agricultural data needed for stabilizing recourse to export controls, U.S. policy could make such data a quid pro quo for future supplies. Or, more generally, U.S. policy could utilize its residual supplier position to support its case for norms governing recourse to export controls for economic purposes. A U.S. policy which blended its near-term interest in stabilizing the domestic economic impact of external commodities demand with the recognition of its long-term interest in stable rules governing access to supplies in areas of U.S. dependence would be a welcome contribution. Such a policy would establish patterns for enhanced international management of access to future scarce resources.

Second, the exclusivist pricing policy of the OPEC cartel remains a crucial impediment to community acceptance of an inclusive conception of global equity. Right reason and dire predictions have proved insufficient to convince oil-producers that global equity will not be served by the pauperization, economic disruption, and political collapse of

developed countries. U.S. policy should seriously consider how to manipulate the oil market, therefore, as a means to breaking the OPEC cartel and its exclusivist price policy. Currently there is excess producing capacity within the world's oil fields estimated at between 6 and 7 million barrels per day.^{*} This has led some to argue for accelerated energy conservation by the Western oil-consuming countries.^{**} Presumably, a reduction in consumption would at least put downward pressure upon prices and hopefully erode the cartel as its members fell out among each other in attempting to allocate production cutbacks to rebalance supply and demand. Such proposals unfortunately suffer from two weaknesses. On the one hand, until now OPEC producers have been able to counter pressures upon price from surplus production by cutting back production^{***} as exemplified by the current excess capacity. On the other hand, the level of consumption reduction necessary to place heavy pressure upon the cartel is likely to entail cuts of essential as well as non-essential energy uses. The 15 percent cutback in consumption, reportedly broached by Secretary Kissinger to other major consumers in early October, would have represented a cutback equivalent to that brought about by the Arab oil embargo against the United States.

Others, skeptical of the impact upon the cartel of conservation efforts, propose accelerated pursuit of self-sufficiency to put downward

^{*} Wall Street Journal, October 15, 1974.

^{**} Secretary Kissinger is reported to have proposed a 15% consumption cutback to France, West Germany, Britain, and Japan at a meeting in October. This proposal was not well received. The New York Times, October 3, 1974.

^{***} Wall Street Journal, October 15, 1974.

pressure upon prices. This would require increased offshore drilling and more rapid depletion of existing U.S. fields in the next two to three years. Domestic political factors are likely, however, to make this infeasible. One ingenious proposal by M.A. Adelman indicates the type of measure in need of serious consideration. Adelman would manipulate the oil market structure by requiring oil-producers to bid secretly for the right to export to the United States. The result that he foresees is a loss of necessary trust and stable market shares among OPEC members as some countries shave prices to gain access to the U.S. market, while those refusing to do so compete for larger shares of the non-U.S. market.* Other means of manipulating the oil market interaction undoubtedly could be developed. What is needed is an admission that right reason has failed and that some combination of conservation, new production, and Adelman-type manipulation needs to be tried.

Third, one of the major uncertainties overhanging the access-to-supplies issue is whether or not other raw materials producers will be able to replicate the OPEC cartel. Even though, as argued above, the likelihood of similar cartelization is low, the bare possibility impedes movement toward international collective economic security. Among consuming countries, that uncertainty reinforces existing neo-mercantilistic tendencies which hinder efforts to develop a non-discriminatory framework to regulate recourse to export controls, creating a climate legitimizing exclusivist approaches to global economic equity. Similarly, as long as raw materials producing countries remain hopeful that successful

*M.A. Adelman, "Letter to the Editor," The New York Times, October 3, 1974.

cartelization will allow them to realize monopoly rents, the prospect of an international economic order based upon a principle other than that of the exploitation of the weak by the strong will remain unattainable.

To make these points, however, a U.S. raw materials policy would have to supplement right reason and quiet diplomacy with a readiness to oppose future raw materials cartels by positive inducements and negative sanctions derived from its market position. On the one hand, U.S. policy could support international commodities agreements designed to assure a fair and stable rate of return to producing countries. This would help erode both the legitimacy and necessity of more exclusivist approaches. On the other hand, recalling the importance of low consumer resistance to OPEC's success, various actions could reduce the likelihood of successful cartelization. Funding of R&D in substitute technologies to narrow the leadtime for substitution of materials would be one deterrent. Continuing to hold or building stockpiles of vital materials, which if thrown on the market would severely depress world prices and set back cartelization, is another possibility. Standby conservation measures to reduce imports in a transition period to new technology inputs could be developed. Economic inducements, e.g., tax credits or investment write-offs, to promote substitution of the new inputs by otherwise reluctant firms might be legislated. Awareness by erstwhile cartelizers of the availability of such responses might encourage the optimum outcome from a global economic security perspective of accommodation of producer and consumer interests short of such a hostile confrontation.

Inherent in much of the preceding, however, is a point which some may find troublesome. That is, a readiness to use non-cooperative means,

an acceptance of the legitimacy in certain cases of confrontation or preparation for it, may be necessary in pursuit of a cooperative approach to international economic collective security. To repeat an earlier argument, the unassisted effect of right reason is often limited. It is, nevertheless, necessary to be aware of the risk that U.S. policy-makers relying upon non-cooperative measures will lose sight of the broader goal. Even so, the greater danger may be that U.S. policymakers will come to question the legitimacy of their actions under pressure from those forces which define confrontation as neo-colonialism and global equity as simple redistribution.

Manipulating Vulnerabilities
in Related Issue-Areas

Finally, actions to take advantage of the vulnerabilities of others to U.S. action or inaction in one issue-area to support its objectives in another issue-area are possible. When the values at stake are high and the probability of success of less coercive means is low, this may be a legitimate and necessary policy tool. Certainly this is true in the energy issue-area. Possible U.S. actions to support both depoliticized access to oil and less exclusivist oil price policy are termination of technology transfer and technical economic assistance, refusal to grant preferential access to OPEC countries' non-oil exports, cutoff of U.S. military assistance and sales, disengagement from U.S. security commitments or ties, institution of a food embargo, and the threat or use of military force.

The probability that a U.S. boycott of the transfer of technology and the provision of technical economic assistance would be sufficient

to either pressure the OPEC cartel into lowering oil prices or to force the Arabs to desist from a future use of the "oil weapon" is very low. If U.S. action is not part of a more widespread Western embargo on technology sales and economic assistance--which is unlikely^{**}--high priced oil will remain able to buy needed technology and assistance from other sources. And the possibility that OPEC would respond by a selective oil production cutback against the United States could not be ruled out. However, were it possible, a common Western approach, perhaps under the rubric of the new Energy Agency, might stimulate serious consumer-producer bargaining over oil prices, prices of industrial country exports, provision of technical assistance, and related matters. Even here, nonetheless, an oil cutback could be an effective counter-response.

Alternatively, even the common Western embargo upon technology transfer and economic assistance appears unlikely to deter or halt a future Arab oil embargo or production cutback. Political motives would be more than ample to outweigh the loss of economic benefits and the possible fear of a country like Saudi Arabia that continued failure to acquire such technology would markedly weaken her long-term position vis-a-vis Iran. Nonetheless, even simply a U.S. embargo in response to the "oil weapon" might be useful. Were the United States willing to take or threaten some of the measures discussed below, a technology transfer-assistance embargo could have important symbolic consequences. It would symbolize readiness to act, raising in Arab minds the question of how

* On European reluctance to become involved in such a confrontation approach due to its greater dependence on OPEC oil, see The New York Times, October 8, 1974.

much action the United States might decide ultimately to take. But its value would be marginal unless it were soon supplemented by other actions in an orchestrated attempt to exacerbate Arab uncertainty.

Second, prospects for linkage between OPEC oil producers' long-term interest in access to the markets of the advanced industrialized countries and less exclusivist price policies is similarly bleak. Not only would creation of a common Western front be difficult, but some of the OPEC countries--Algeria for one--are already tied into preferential trading arrangements which would be difficult to break. Yet, further exploration of this prospect is needed, particularly in light of Iran's ambitions to become a major industrial power. Unilateral U.S. actions would not have an important effect given the availability of other markets and could be detrimental were they to reinforce existing tendencies towards economic blocs. As a response to a future Arab oil embargo, denial of access to markets, whether unilateral or not, would have only minimal impact. Once again, the hoped-for political gains would outweigh the economic costs.

Third, as with the preceding options, a unilateral U.S. cutoff of military sales to induce the OPEC cartel to lower oil prices appears likely to have limited practical impact. Key OPEC countries such as Iran, Saudi Arabia, and Kuwait would be able to find alternative suppliers. And a joint Western cutoff appears highly unlikely, given both the significant balance of payments contributions of arms sales and the risks of an OPEC oil production cutback in response.

As a response to an Arab oil embargo or cutback, a unilateral U.S. cutoff of arms sales to Kuwait and Saudi Arabia again would be undercut by the availability of alternative arms sources. A joint Western arms

embargo, particularly if accompanied by a threat not to resume sales even following renouncement of the oil embargo, might have more impact. Then countries such as Kuwait and Saudi Arabia, concerned about both internal and external security, might question whether efforts to support the Palestinian-Arab cause by the "oil weapon" were worth their own potential future insecurity. The problem with this argument, however, is that given Western dependence on Arab oil, it is hard to believe that the other Western countries involved would not be willing to trade an agreement to resume arms sales for termination of the "oil weapon"--whenever the Arabs offered it. And in the short run, the Arab governments in question would be able to tolerate the loss of arms.

Regarding military sales cutoffs in response to a future Arab oil cutback or embargo, as with unilateral cutoffs of technological sales and assistance, a U.S. arms embargo could have symbolic political value. The immediate practical effect might be limited, but as a signal of increased U.S. discontent and willingness to rock the boat it could be significant. Once again, this psychological effect would be reinforced were a cutoff of military sales joined to other measures also aimed at increasing Arab uncertainty.

Fourth, with the Persian Gulf security environment characterized by the existence of many regimes whose security from internal political upheaval is in doubt, the prospect of continued intra-regional conflict, and the growing presence of the Soviet Union,^{*} U.S. policy has been to

^{*}See, e.g., J.C. Hurewitz, The Persian Gulf: Prospects for Stability, Headline Series, Number 220 (April, 1974); Shahram Chubin, "Iran: Between the Arab West and the Asian East," Survival (July/August, 1974), pp. 172-182.

support regional stability. In pursuit of that end it has sold arms to Iran, Saudi Arabia, and Kuwait; provided economic assistance; maintained a naval presence in the Persian Gulf and Indian Ocean; and conveyed by its diplomatic activity support for many of these regimes and their present rulers. As a means of influencing both OPEC and OAPEC, U.S. policymakers could consider gradual disengagement from the Persian Gulf for two purposes. On the one hand, by increasing disengagement, U.S. policy would seek to intensify the insecurity of such key Gulf countries as Iran, Saudi Arabia, and Kuwait, hoping to make them more amenable to reducing the price of oil. The message to King Faisal would be that given the high cost of oil, a U.S. concern for regional stability and for inhibiting the growth of Soviet influence had become an expendable luxury. On the other hand, by instituting a policy of disengagement in the wake of renewed Arab use of the "oil weapon," U.S. policy would again increase Saudi and Kuwaiti insecurity, indicating to them that U.S. support was not unconditional. There would be no reason why the United States would have to sever its ties with Iran. Rather, given traditional Saudi concern about Iran, continued U.S. ties with Iran would fit well with a policy of intensifying Saudi insecurity.

But, whether as a counter-OPEC strategy or a counter-OAPEC strategy, U.S. disengagement is subject to several criticisms. The negative consequences of U.S. disengagement are somewhat removed in time, meaning that both Iranians and Saudis would tend to discount any immediate feeling of increased insecurity. Moreover, such "agonizing reappraisals" are hard to carry through--and target states know that. Furthermore, U.S. disengagement could be a high-risk strategy. Not only might it not have the sought-after impact upon the key countries, but it might open up significant new

opportunities for increased Soviet influence within the Persian Gulf. And even were indigenous nationalism a match for the Soviet Union, viz. Egypt, it might not be possible for proponents of disengagement to convince other bureaucratic factions of that fact. If so, this option might never go beyond vague diplomatic rumblings and posturing. In that case, however, to attempt to manipulate Persian Gulf nations' insecurity would be worse than doing nothing because the main result would be increased intransigence.

Fifth, for the frequent suggestions that U.S. policy respond to a future Arab oil embargo or selective production cutbacks by imposing a food counter-embargo, the earlier conclusion holds. That is, in the absence of parallel action by other food exporters, the probability that a U.S. embargo would coerce Arab oil exporters into lifting its oil embargo against the United States is very low. Even assuming parallel action among the major Western food exporting countries--itself not very likely for reasons of their respective interests noted earlier--the prospects of success are modest. Nonetheless, as in the case of an embargo on technological assistance or on military sales, a U.S. food embargo could have important symbolic value and increase Arab uncertainty about how far down the path of direct confrontation U.S. policymakers might be willing to go. A U.S. decision to rock the boat in one or more of the preceding ways might be of symbolic value to U.S. policymakers as well as to Arab sheiks. From the very beginning Western bargaining with both OPEC and OAPEC countries has suffered from a "submission psychology," only occasionally interrupted by empty bluster. Initial State Department reaction to OPEC pressures in the early 1970s combined a wringing of hands

about self-described U.S. weakness with pleas for OPEC statesmanship. The more recent "right reason" approach has been cowed repeatedly by counter warnings of the illegitimacy and risks of confrontation. Thus a U.S. decision to resort to an embargo upon sales of food--or arms, or technology--would help engender a less submissive U.S. bargaining attitude. It could foster a willingness to engage in other types of counter-confrontationist politics and a recognition that even more forceful measures need not be unthinkable.

An Ultimate Vulnerability:
The Threat or Use of Force?

Most analysts would agree that it is within U.S. military capabilities to simultaneously occupy the Saudi Arabian oil fields and seize the related oil-loading facilities at Ras Tanura on the Persian Gulf.* Thus, disputes about the use or threat of military force as the ultimate option to counter OPEC prices and OPEC coercion hinge not upon questions of U.S. capability but upon answers to the following questions: How badly damaged by Saudi demolition efforts would the oil fields and related facilities be? How much of an obstacle to continued oil flow would sabotage and terrorism following a U.S. occupation represent? What would the Soviets do? Is military intervention unthinkable? Given the costs of even successful military intervention, can the threat of military action be utilized instead? And, assuming that military intervention is probably too costly, is it possible nonetheless to manipulate the threat of irrational action?

* See, e.g., Blechman and Kuzmack, op. cit.; Andrew Tobias, "War-- The Ultimate Antitrust Action?" New York, October 14, 1974, pp. 35-40.

During the oil embargo of 1973-74, Arab governments responded to rumors of military counter-action by threatening to destroy the oil fields and facilities. Would the Saudis carry out such a threat? Probably they would attempt to do so. But the Saudis might be bluffing: it is one thing to threaten economic self-emasculation as a deterrent, another to carry it out. Assuming no bluff, how effective would demolition efforts be? It is not unreasonable to guess that Saudi efforts would be moderately but not completely successful in shutting down current production. As the Allied experience in World War II indicates, an intention to destroy vital installations is not always realized in practice--the bridge at Remagen over the Rhine is one example. And even with highly effective demolition work, production shut-down would be a short-term phenomenon. In the words of one oil engineer, "With competent drilling contractors and a lot of money behind you, you could still bring the field back in six months or a year. Actually, oil and gas installations are really pretty hard to take out of service for any length of time...."

Granting even at least an initial drop in production, how does it affect the utility of military intervention? The answer varies somewhat, depending upon the circumstances surrounding recourse to military force. Were military intervention undertaken in response to a renewed total Arab oil embargo, the loss of future Saudi production via intervention would have to be balanced against the loss by embargo. Nor need such use of military force trigger production cutbacks by countries such as Venezuela, Iran, Iraq, and Nigeria. The same combination of economic and political motivations which led these countries to continue producing during the

*Quoted by Tobias, op. cit., p. 40.

embargo would still operate. Contrariwise, in the case of military intervention to break the OPEC cartel by first seizing and then selling increased quantities of Saudi oil at lowered prices, the impact of an initial production drop might be more significant. Continued production by the other OPEC countries cannot be assumed without question, though the initial use of force would likely make them wary of responding by cutting production. Therefore, assuming the other continued production, the temporary loss of Saudi production would constitute a moderately greater reduction of supply than that of the October Arab oil embargo (6.5 million barrels per day versus 5.5 million barrels per day). To spread the burden of reduction more evenly, particularly since the United States is not heavily dependent on imports of Saudi crude, oil-sharing would be needed. Even so, the temporary loss of Saudi production would be economically harmful much as was the October 1973 embargo. It is not clear how much weight should be given these economic costs in evaluating the utility of military intervention as an anti-OPEC device. Once it is recognized that the resort to force would be likely only after exclusivist pricing policy had led to severe economic, financial, and political dislocation and suffering, would the economic loss from intervention be the proverbial straw that breaks the camel's back or simply a temporary burden? It is not unreasonable to suggest that in an economic climate of double-digit unemployment, financial crises, and general suffering, marginal economic worsening would not lead to complete economic and political collapse. In point of fact, taking military action as a last desperate action could engender a growing sense of restored control over the determinants of economic order,

particularly if it held out the prospect that in the restoration and expansion of Saudi production the cartel's strangle-hold would be broken. Moreover, in both cases the disruptive impact of the loss of Saudi production could be significantly less were the oil fields and facilities only marginally destroyed during military occupation.*

In response some would contend that post-occupation sabotage and terrorism would significantly cut oil production regardless of whether most of the fields and facilities had been seized essentially intact. Moreover, this warning continues, the United States would find itself committed to the long-term occupation of another country, facing on-going guerrilla warfare and harassment. Yet, most oil engineers would agree that "...if a military effort were exerted you could get the oil out reasonably well and manage under conditions of harassment....But it wouldn't be easy."** How long could the United States remain committed to that enterprise? If, as argued below, it is not impossible to envisage situations in which U.S. public support could be mobilized post hoc for military intervention, it is nonetheless difficult not to envisage growing reluctance to remain as a long-term occupying power.

* Most discussions of military intervention focus initially on destruction of the oil fields in the target country. As suggested above, it is equally necessary to consider the reactions of other oil-producing countries. For the anti-OPEC variation the question becomes, Will the threat of follow-up intervention, joined to statements calling for an international conference to establish "fair" oil prices, deter sympathetic production cutbacks? As noted, such sympathetic cutbacks are likely to be less of a problem in the anti-OAPEC case.

** Quoted by Tobias, op. cit., p. 40.

Much as French domestic opinion not Algerian rebel military successes forced French disengagement from a beleaguered occupier's role, U.S. public opinion would probably do likewise. The crucial question, then, is not how long the United States could remain, but how long it would have to do so. From this perspective the feasibility of resort to military intervention depends heavily upon the prospects for energy independence in the United States and Western Europe. That is, while it may be possible to conceive of military occupation as a last resort, stop-gap response to either intense economic coercion or pauperizing oil prices, it is difficult to see such occupation as a long-term response. Even then, we are talking of a U.S. military presence for between 10-15 years since only then would relative energy independence provide freedom from Arab oil coercion and/or a reconstituted cartel following U.S. disengagement.

Unlike the 1958 military intervention in Lebanon, assessment of the recourse-to-force option must now weigh the possibility of Soviet efforts to deter or counter U.S. intervention. Recent years have seen a build-up of Soviet capabilities to project conventional force abroad and the growth of Soviet naval presence East of Suez. However, before extrapolating from these developments a probable Soviet readiness to challenge U.S. action, the significance of both the responses open to the Soviet Union and past Soviet risk-taking behavior must be evaluated.

On the one hand, with one possible exception, most available Soviet responses would not have a high likelihood of success, particularly in a direct clash with U.S. forces. For example, how successful would it be were the Soviets to seek to deter U.S. intervention by interposing

Soviet ships between the sea-borne component of a U.S. interventionary force and Saudi territory? Such a Soviet force of 4-6 ships, mostly destroyers, would be militarily inferior to a U.S. carrier task force and would be unable to prevent helicopter landings of marines. Nor could it prevent U.S. carrier-based aircraft, themselves unaffected by a small Soviet naval show of force, from being used in support of airborne troop landings. Alternatively, the Soviets could attempt to deter U.S. action by airlifting troops to northern Iraqi bases, threatening to move south in conjunction with Iraqi troops. But were Soviet troops actually to move towards Saudi Arabia, their operations would be handicapped by limited heavy equipment and, more importantly, by the lack of mobile air support comparable to U.S. carrier-based forces. It is also questionable whether Kuwait would not seek to resist the transit of Soviet-Iraqi forces through Kuwait in light of past Iraqi threats to Kuwaiti independence.

The possible successful exception would be a Soviet attempt to blockade the Straits of Hormuz, using either a combined submarine-surface ship task force or undersea mines placed by submarine or by aircraft, to prevent oil tankers from leaving the Persian Gulf. The likelihood of an effective blockade depends upon several factors. Would U.S. naval forces be able to reach the Straits of Hormuz before Soviet surface ships and to establish a corridor which the Soviets could break only by resort to force? Would U.S. ASW forces be able, and would U.S. policymakers be willing, to establish an effective convoy system, including sinking Soviet submarines? Would U.S. forces be able to counter Soviet efforts to mine the Straits of Hormuz, which would be a relatively low force

Soviet undertaking?^{*} How would tanker owners respond to possible loss of their ships, i.e., would they refuse to move towards the Straits of Hormuz even with U.S. assurances that Soviet measures had been negated? In light of the preceding uncertainties, it is reasonable to suggest that this final tactic would be the preferred Soviet response, were they to respond. But, would they do so?

It is necessary to remember that postwar Soviet foreign policy has been characterized by a relatively low risk-taking propensity. In the Berlin crisis of 1958-1961 the Soviets carefully avoided testing the threshold at which a U.S. military response became highly probable. Similarly, placing missiles in Cuba demonstrated not a willingness to run high risks but poor calculation of probable U.S. reaction and thus of how much risk of war they were running. Making a distinction between risks, Hannes Adomeit refers to

previous Soviet behaviour, which has been marked by recurrent manipulations of risks of crisis and by withdrawal from a competition in risk-taking only when the risk of war became evident.**

Extrapolating from this pattern would lead one to place a low probability on Soviet counter-action to a U.S. recourse to force. But is it possible simply to extrapolate from a record compiled mainly before the transformation of the Soviet Union into a global power and the end of Soviet strategic inferiority? Do recent Soviet actions in the Middle

^{*}Blechman and Kuzmack conclude that "since the number of successful [mine-laying] missions required is quite low (6 to 8 for submarines, 12 for aircraft), it should be expected that the U.S.S.R. would be relatively successful." Ibid., pp. 12-13.

^{**}Hannes Adomeit, Soviet Risk-Taking and Crisis Behaviour: From Confrontation to Coexistence? Adelphi Papers, Number One Hundred and One (London: International Institute for Strategic Studies, 1973), p. 35.

East, not the least of which would be the threat of military involvement in October 1973, augur a greater willingness to run the risk of confrontation with the United States? Or, has Soviet risk-taking propensity remained low while their assessment of what is risky action changed due to a perceived U.S. reluctance to become involved abroad in a "new Vietnam"?

Moreover, it is important to consider whether U.S. action is a response to the use of the "oil weapon" or a desperate action to break the OPEC cartel. In the former case Soviet failure to act might mean sacrificing past efforts to gain influence within Arab countries as well as future opportunities to reap the whirlwind of anti-Americanism likely to follow U.S. military intervention. Yet, a military response in the midst of an on-going Arab-Israeli war might make it more difficult to avoid involvement in the central theater which would be far more risky than a localized effort to mine the Straits of Hormuz. Contrariwise, the risks of escalation could be less and the probability of keeping a Soviet-American clash over the Straits localized somewhat higher in the case of U.S. anti-OPEC action. However, unlike in the anti-"oil weapon" case in which U.S. policymakers could conceivably allow their action to be trumped by Soviet mine-laying operations, given the probable state of mind of U.S. policymakers in resorting to force to break the cartel, U.S. inaction in the latter case appears unlikely. Even in the former case it is not easy to imagine that, once the decision to resort to force had been made, the United States would not attempt to counter a Soviet blockade.

Against this background of the reason for U.S. action, the probability of Soviet counter-action depends upon both the availability of viable

Soviet responses and their willingness to reverse past risk-taking practice. Mining the Straits of Hormuz could be regarded by Soviet decision-makers as a viable response. By undertaking it, however, Soviet decision-makers would accept a serious and unprecedented risk of military conflict with the United States. Thus, even this response might not be undertaken. Nonetheless, although a Soviet response is far from assured, it is hard to avoid concluding that a U.S. recourse to force is not a low-risk action and could turn out to be a high-risk option.

But depending upon the circumstances, U.S. recourse to force, regardless of its risk, could become a thinkable option. As argued above, Arab use of the "oil weapon" poses a serious, and potentially grave, threat to the national interests both of its direct targets and its spillover victims. It not only is a conscious exertion of what Schelling calls the "power to hurt," inflicting economic pain and suffering with only limited ability to distinguish friend from foe, civilian from combatant, but it also seeks to erode the political independence of its targets. And, to repeat, given the contribution to global stability of mutually accurate Soviet and American expectations of each other's willingness to act, U.S. appeasement in the face of Arab economic coercion would have extremely serious side-effects. These effects would be intensified, moreover, because the type of probable concessions to be coerced out of the United States by the use of the "oil weapon" in the next Middle East war especially would call into question U.S. credibility and reliability. One such concession could be U.S. agreement not to resupply Israel. Another could be U.S. diplomatic support for forced Israeli withdrawal to pre-1948 borders or even support for the Arab maximalist goal of a "secular,

democratic Palestinian state." Finally, as argued above, a strong, but admittedly not unassailable, claim can be made that Arab oil coercion threatens community attempts to regulate recourse to force in world affairs. It may be so sufficiently intense as to constitute impermissible coercion warranting measures in self-defense.

Therefore, in light of these national and community interests threatened by the "oil weapon," the question is not whether recourse to force in legitimate defense of these interests is thinkable, but when it would become so. There is no general, universally valid answer. Much depends upon the character of future use of the "oil weapon"; the impact within target countries and spillover victims; the effectiveness of lesser level responses, e.g., the oil-sharing Insurance plan, in managing the disruptive effects of oil coercion; and the point at which American domestic and congressional opinion would shed its reluctance to take action. Suffice it to suggest that were the Arab oil producers in the next Middle East war to resort again to the "oil weapon," and in a manner to maximize successfully pain and undercut the recently-formulated Western cooperative efforts to adjust to the loss of production, the use of force would have been made a legitimate and necessary instrument of self-defense.

Turning to the thinkability of using force to break the OPEC cartel, the issues are comparable but their ultimate implication is more uncertain. As argued previously, the exclusivist OPEC price policy does represent a rejection of an inclusive conception of global equity demanded by collective international economic security. The immediate impact of this exclusivist approach has been to undermine the economic

well-being of most advanced industrialized nations and to set back the developmental efforts of resource-poor LDCs. Simultaneously, the vast resource flows involved have placed great strains upon international financial mechanisms not designed to handle such transactions.* Nevertheless, despite these serious short-term consequences, the longer-term implications of high priced oil are a matter of some dispute. Will the passage of time see the accumulation of even greater financial reserves in the oil-producing countries--\$1.2 trillion by 1985 according to one estimate--and the increasing pauperization and bankruptcy of many industrialized nations, accompanied by political collapse and the demise of democratic institutions? Or will a combination of economic forces, creative institutional adjustment, and lesser level common responses gradually cause the prospect of economic collapse to fade from view? Even assuming that in the long run the world would be able to adjust to exclusivist oil producer policies, will the oil-consumers and the global economic system be able to weather the short-run, to make the necessary adjustments though probably lacking needed time to learn how to do so? These considerations engender the following conclusion regarding the use of force to break the cartel. At the current point in the process of adjustment to the changed balance of power between oil producers and oil consumers, to argue for military intervention would be premature. As in the case of responses to the renewed use of the "oil weapon," recourse to military force should await evidence of the failure

* For an overview of the issues, see Walter J. Levy, "World Oil Cooperation or International Chaos," Foreign Affairs, Vol. 52, No. 4 (July 1974), pp. 690-713.

of lesser level responses to bring about less exclusivist oil price policies--assuming time permits. But, should careful assessment of the impact of high oil prices, of the short-term adjustment capabilities of the international economic system, and of the long-term dimensions of the problem even with such a process of adjustment indicate a clear and present danger to Western economic and political well-being and stability, military intervention would become a thinkable option.

The burden of the preceding argument is that at some point in time, perhaps more readily determinable for anti-OAPEC than anti-OPEC action, military intervention by the United States would not only be thinkable, but legitimate and necessary. Nonetheless, even if it includes our NATO allies, such action would be costly in terms of risk, lives lost, domestic political dissidence, economic disruption, and opportunities for increased Soviet influence within the Middle East. Given these significant costs, two questions arise: What might the U.S. do to threaten the use of force? and, How effective would the threat be given the Arab or OPEC understanding that it would be costly to carry out?

Several possible actions might increase the spectre of a U.S. use of force. These include permanent deployment from the 7th Fleet into the Indian Ocean of an aircraft carrier task force, including the helicopter carrier Tripoli; proceeding with plans to upgrade Diego Garcia, including lengthening its runways to accommodate C-5As; airborne troop maneuvers; formation of special anti-demolition and oil fire-fighting units within airborne units; publicized mine-sweeping operations in the Indian Ocean; leaking discarded contingency plans to an unsuspecting Jack Anderson; and suitable low-level bureaucratic rumblings. Timing

would be quite important. To raise the issue of force and then back off as both President Ford and Secretary Kissinger did in October is counter-productive. Also, such maneuvers will generate Arab resentment, as well as resentment in non-Arab oil-producing countries, and should only be undertaken after a conscious decision to shift from diplomacy to coercive diplomacy. Otherwise, when the Shah responds with talk about not "waving your finger at me" and the sheiks speak of blowing up the wells, U.S. officials will hastily retreat, reinforcing the producers' sense of immunity. Coordination with U.S. allies might or might not be desirable. To have Harold Wilson rush to Washington at the beginning of an orchestrated U.S. campaign of coercive diplomacy during a new Arab-Israeli war, much as Clement Atlee rushed to Washington and brought back Truman's disclaimers about the use of nuclear weapons in Korea, could have mixed effects. If the U.S. intended to back off, and told Wilson so, this would erode the threat. But if Wilson rushed back to spread the word that the "mad Americans" were thinking of using force, it could enhance the threat. *

How effective would these and similar efforts to threaten the possibility of U.S. military intervention be? Granting that such threats would be discounted by oil-producers knowledgeable that implementation would be costly and that they were the targets of an orchestrated coercive campaign, to pose seriously the prospect of a desperation resort to force still could be advantageous to the United States in two ways. First,

* Parenthetically, it might be suggested that the French would be particularly convincing in the latter role.

although such tactics would be unlikely to either prevent Arab use of the "oil weapon" altogether or coerce its cessation, it could affect the modalities of oil coercion. Coercive diplomacy could cause the Arab oil producers not to implement a total embargo to undercut the oil-sharing plan, to hold to "modest" levels the extent of cutbacks, and to look the other way to leakage. Much Arab oil diplomacy in the past year has evinced a relatively cautious sense of how far to push. Thus, by posing the threat of force should oil coercion push too far, U.S. diplomacy might be able to hold future use of the "oil weapon" within manageable limits. And, if not, the preparatory steps undertaken as threats would then serve as stepping off points to further action. Second, the possibility that the United States might resort to force as a last gamble could very well moderate OPEC policies. Conclusive evidence is unavailable, but OPEC from 1970 on also appears to have sensed Western weakness and pressed its advantages--economic and psychological--home. Much as with the resort to non-cooperative measures discussed in regard to other raw materials questions, posing the threat of force here, too, may buttress right reason. That the right reason approach, the one with which the discussion of pursuing a system of international economic collective security began, needs such support is a lamentable, but unavoidable aspect of world politics.

VI. CONCLUSION

During most of the past three decades world politics has been dominated by Cold War issues. U.S. foreign policy became national security policy as the problem of creating and maintaining a Western counterpoise to Soviet power and ambition took priority. Concomitantly, international economic issues of trade, investment, and finance were relegated to their own "track" to be resolved in their own terms. But even before the Arab oil embargo and the ensuing jump in oil prices, it had become clear that this postwar pattern of world politics was changing. By the late 1960s the breakdown of the postwar international economic order and the need to create a durable replacement within which to manage growing economic interdependence had raised economic issues to the agenda of "high foreign policy." Moreover, as argued throughout the preceding essay, the problem confronting U.S. foreign policy extends beyond assuring access to supplies of oil at manageable prices or balancing domestic and foreign demands for U.S. agricultural products. Rather, both of these objectives should be pursued within the broader framework of U.S. support for a system of international economic collective security. Such a system would both depoliticize access to raw materials and establish norms, procedures, and related agreements to rationalize interdependence. Most importantly, central to a system of global economic collective security would be an inclusive conception of global equity, a conception within which rich nations and poor nations, consumers and producers alike, acknowledged their mutual needs and obligations. It remains to be seen whether they will be willing to do so.

CAN WE AVERT ECONOMIC WARFARE IN RAW MATERIALS?
U.S. Agriculture as a Blue Chip

By
William Schneider

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Table of Contents

	Preface	vii
Chapter 1	Introduction	i
Chapter 2	US Experience With Economic Warfare	10
Chapter 3	Agricultural Exports as an Instrument of Economic Warfare	18
Chapter 4	Implementing Economic Warfare	31
Chapter 5	Strategic Implications	35
	NSIC Agenda Papers	44
	NSIC Strategy Papers	45

1

Introduction

For some time, economic warfare has been out of fashion with US policymakers as a meaningful instrument of national policy. There was strong academic interest in the subject during World War II and the Korean War, but little serious research has been done since then.¹ The United States has had statutes in force ever since the Trading With the Enemy Act of 1917 to provide a legal basis for the conduct of economic warfare. But in recent years, specialists and policymakers alike have been disenchanted with the efficacy of such measures to support foreign policy objectives against substantial adversaries. As a consequence, most of the economic warfare measures instituted since World War II, which have been directed primarily against the Soviet bloc, have not been energetically enforced. With the exception of some of the most sensitive military technology, little effort has been made to prevent leaks of important civilian tech-

¹ For useful discussions of economic warfare, see R. L. Allen, *Soviet Economic Warfare* (Washington: Public Affairs Press, 1960); H. S. Ellis, *Exchange Control in Central Europe*, Harvard Economic Studies No. 69 (Cambridge: Harvard University Press, 1941); A. O. Hirschman, *National Power and the Structure of Foreign Trade* (Los Angeles: University of California Press, 1945); J. Viner, *Dumping, A Problem of International Trade* (Chicago, University of Chicago Press, 1923); Y. Wu, *Economic Warfare* (Englewood Cliffs: Prentice-Hall, 1952). A useful review of the development of the subject can be found in the *International Encyclopedia of the Social Sciences*, p. 467.

2 *Can We Avert Economic Warfare in Raw Materials?*

nology to the Soviet bloc. Nor is there a significant consensus among policymakers as to how (if at all) economic warfare should be conducted in the future as an element of national policy against actual or potential adversaries.

The Arab oil embargo imposed on the United States and other nations in October 1973 has, however, stimulated a reconsideration of the utility of resource control as a means of influencing international diplomatic behavior.

Postwar economic and monetary arrangements (Bretton Woods and GATT) were designed to support an economically interdependent world. This system has been based upon the notion—developed in over a century of economic thought—that free international commerce would inhibit military competition among the nations, and at the same time enhance their economic welfare. The 19th century economist and philosopher John Stuart Mill observed:²

It is commerce which is rapidly rendering war obsolete by strengthening and multiplying the personal interests which are in natural opposition to it.

The higher economic standard of living which has been the result of the international specialization of labor in an environment of the free international movement of economic resources has become one of the most conspicuous characteristics of the postwar world. This interdependence involves risks that were not easy to calculate in advance, but which have been made painfully evident in the wake of the recent oil embargo.

Quoted in J. R. Schlesinger, *The Political Economy of National Security* (Praeger, New York, 1960), pp. 139-140. An equally renowned economist, John Maynard Keynes, argued that international economic autarky rather than interdependence was preferable because of the tensions which he believed to be inevitable under a system of interdependence. The anti-American nationalism that has been aroused in Canada, South America, and Europe against multinational US firms is a convenient illustration. See J. M. Keynes, "National Self-Sufficiency," *Yale Review* (Summer 1933), pp. 756-758.

The Arab oil embargo, designed primarily as an instrument to support Arab policy objectives in the Middle East conflict, is interesting from a number of perspectives:

- (1) Unlike the conventional perception of economic warfare, where the objective is simply to inflict some substantial losses on a potential opponent in order to limit his war-fighting capability, the Arab embargo was limited to specific diplomatic objectives in a well-defined set of circumstances. The connection between the sought-for behavior of non-Arab states and the termination of the embargo was made explicit by the OPEC nations. As a result, nations heavily dependent on imported oil (for example, France and Japan) could be induced to cooperate with the OPEC governments conducting the embargo; and this made it more difficult for other countries to organize an effective opposition to it.
- (2) The extent to which resource control may be effective as a means of influencing governments does not necessarily imply a total cutoff of deliveries. There can be dramatic political payoffs from a small cut-back, or even in a failure to expand production at an anticipated rate. Table 1 shows that the Arab oil embargo involved a reduction of less than ten percent in pre-embargo shipments to the oil importing nations.¹
- (3) Primary or semimanufactured products may be more effective instruments of economic warfare than manufactured products because of higher short-run substitution costs for the former.

¹ A useful review of the Arab oil embargo may be found in R. Johns, "How the Arabs Took Stock of the Power of Their Oil" *Financial Times*, March 22, 1974.

TABLE 1
Arab Oil Shipments, September 1973-January 1974

	September Volume ^a	January Volume ^a	Volume Change	Percent Change
Saudi Arabia	8,569	7,520	-1,049	-12.2
Kuwait	3,526	2,836	-690	-19.6
Abu Dhabi	1,398	1,223	-175	-12.5
Qatar	608	518	-90	-14.8
Oman	302	299	-3	-0.1
Dubai	273	180	-93	-34.1
Bahrain	68	70	+2	+2.9
Libya	2,286	2,032	-254	-11.1
Total Participants	17,030	14,678	-2,352	-13.8
Nonparticipants in Cutbacks				
Iraq	2,112	1,821	-291	-13.8
Iran	5,828	6,137	+309	+5.3
Grand Total	24,970	22,636	-2,334	-9.3

^a In thousands of barrels per day
Source: *Petroleum Intelligence Weekly*

Economic warfare may become the gunboat diplomacy of the backward nations of the world. Arab success in influencing the policies of the United States and its allies in the Middle East crisis is subject to at least some degree of

Introduction

5

emulation by other states or collections of states in certain circumstances.¹

The question for the United States is whether or not economic warfare can become a useful addition to the range of alternatives available to policymakers in support of diplomatic objectives. The employment of such measures against the Soviet Union to inhibit the transfer of military-related technology has been an important component of US foreign economic policy for 25 years. These efforts have, however, tended to focus on the transfer of industrial technology, because of the perception that such technology was the linchpin of the Soviet (or any modern) military machine. The conviction (with little evidence to support it) was that denial of crucial industrial technology would be the most effective means to inhibit the growth and modernization of the Soviet military establishment.

When the issue is posed in these terms, it tends to obscure the potential impact of more indirect means of waging economic warfare that could be vastly more effective as a way of influencing the character of resource allocation within the Soviet economy, and thereby affecting the resources available to the Soviet defense sector. Moreover, amid the resource abundance we have enjoyed for most of this century, there has been little motivation to consider the utility of economic leverage as an instrument to facilitate access to raw materials or to influence other aspects of our diplomacy.

¹ The ability of nations exporting raw materials to the industrialized nations of the world is, however, extremely limited at present because of lower costs of substitution for their products in the industrial world, limited ethnic and political cohesion among the nations exporting raw materials, and the limited dependence of most industrial nations on any single raw material. There may be some exceptions, such as titanium, where the supply is dominated by the Soviet Union. The Soviets have demonstrated little reluctance to manipulate resource supplies for political purposes, witness the Soviet cutoff of oil deliveries to the Federal Republic of Germany between October 1973 and January 1974. At the recent UN conference on raw materials policy, some resource-producing nations urged the formation of OPEC-type cartels. This is discussed in more detail in a later section of this essay.

6 *Can We Avert Economic Warfare in Raw Materials?*

The most obvious potential instruments of economic warfare available in the structure of US export capabilities are advanced industrial technology and agricultural commodities. Manipulation of the flow of advanced industrial technology as an instrument of economic warfare has several disadvantages. These have become apparent under a variety of circumstances, from wartime restrictions against the Axis powers to peacetime limitations on trade in advanced industrial and scientific technology with the Soviet bloc. To be specific:

- (1) The United States does not have a monopoly on advanced industrial and scientific technology. The expertise and production capability for a wide range of advanced technology products exist in most of the West European countries and Japan. Over time, the ability of a target nation to procure advanced technology from nations other than the United States is likely to increase.
- (2) There are very few examples of advanced technology that are both essential and unique (that is, for which no substitutes are feasible). In the more typical case, substitutes are available, although at higher cost and reduced efficiency. The effects on either Soviet behavior or capability are likely to be slight. Historically, the Soviets have generally sought to offset their technological inferiority in the military sphere by adding additional manpower (to the detriment of their civilian economy) and by proliferating less sophisticated weapon systems than we have been able to deploy.⁵

⁵ For example, the Soviet response to sophisticated manned bomber deployments in the 1950s was not the deployment of equally sophisticated countermeasures such as high performance manned interceptors and surface-to-air missiles (as would have been done by the United States and most West European nations faced with a similar threat). Rather, the Soviets simply proliferated very large numbers of day fighters (primarily the MiG-15 and MiG-17) and SA-1 and SA-2 missiles. This was done at higher cost than would have obtained if sophisticated cost-effective equipment could have been employed. But the Soviet approach did provide an effective air defense system.

Introduction

- (3) It is not easy to measure the contribution of advanced industrial and scientific technology to military effectiveness, because such effectiveness is frequently a byproduct of technology that has broad civilian application. For example, a large-scale scientific computer such as the Control Data CDC-7600 could be effectively employed in many parts of the bureaucratic apparatus of the centrally planned Soviet economy; but it could also be used in the control of radars and missiles in a sophisticated ABM system.⁶

The largest component to our total exports is agriculture. This fact reflects a degree of technological sophistication that borders on monopoly. Since 1968, the value of US agricultural exports has risen from \$6 billion to \$17 billion, or 183 percent, while the value of nonagricultural exports has risen only 79 percent. The employment of agricultural exports as an instrument of economic warfare presents characteristics that are not present in industrial commodities:

- (1) The most advanced agricultural technology has been developed and exploited in the United States. As a consequence, there exists a vast capacity for export, especially in raw agricultural commodities (such as wheat, corn, rye, and oats).
- (2) The United States is the only nation able to export agricultural commodities in large quantities that has a parallel capacity to augment output in response to changes in worldwide demand. The other major nations with an agricultural export capacity cannot easily increase output, nor do they produce agricultural surpluses in large enough volume substantially to diminish American dominance of the agricultural export market.

⁶ As, indeed, the US now employs the CDC-7600. It is an integral component of the Hard Site ABM system that is now in research and development.

8 *Can We Avert Economic Warfare in Raw Materials?*

- (3) The ability of target nations to substitute indigenous production for imports, or to import higher-cost substitutes, is extremely limited. This is especially true in the case of feed grains in the Soviet Union and food grains in the underdeveloped nations.
- (4) The US comparative advantage in agriculture is increasing over time relative to that of other nations as a result of a high level of research and investment in agriculture.
- (5) As *per capita* income increases in the Soviet Union (and other nations), there is a strong desire to enhance the quality of agricultural products consumed. This shift in demand is frequently impossible for the already inadequate agricultural sector to accommodate without massive shifts in domestic resource allocation to the agricultural sector.
- (6) Low agricultural productivity in the Soviet Union is difficult to remedy because of an inadequate agricultural infrastructure (such as the absence of adequate interfarm marketing, a rural road net, and so forth) to support increased investment in agricultural technology of the kind commonplace in the United States (such as feedlots for livestock).

The United States has every reason to use this vast agricultural lever in support of its diplomacy. Many of the nations with which it has important conflicts of interest are precisely those whose dependence on US agriculture is likely to be most significant over the near term. The manner in which the conflicts are resolved is important; they may not be capable of politically acceptable resolution through the threat or use of force. The agricultural lever, however, may give US diplomacy improved prospects for success in an international environment where it may be difficult to sustain our foreign policy objectives by other means.

The balance of this essay will examine in detail the potential of agricultural products as an instrument of economic warfare. Chapter Two will review briefly the recent history of economic warfare in the United States. Historically, many policymakers have often expected too much from the employment of such techniques. As a consequence, more realistic opportunities to employ economic warfare in support of foreign policy objectives have frequently been overlooked. Chapter Three will investigate the capacity of the United States to employ agricultural exports as an instrument of economic warfare. Our preeminence as a world supplier of agricultural commodities has increased substantially over the past four decades. Parallel to this development have been demand shifts that appear likely to sustain this preeminence for many years to come. Chapter Four will suggest some bureaucratic and institutional mechanisms to implement this form of economic warfare. Chapter Five will analyze the strategic implications of employing agricultural exports for economic warfare purposes in three alternative circumstances.

2

US Experience With Economic Warfare

The United States has had economic warfare statutes on the books since 1917. The comprehensiveness and sophistication of these controls have increased sharply since World War II. The first major post-World War II statute, the Export Control Act of 1949, was aimed primarily at the Soviet bloc. This Act, however, gave the President general authority to prohibit or curtail virtually all US exports for any of three purposes: (1) to prevent economic shortages, (2) for national security reasons; and (3) to support US foreign policy objectives.

The broad authority conferred upon the President by this Act has been extended several times, including an amendment in 1962 specifying that export controls should be used to prevent any significant contribution to the military or economic potential of a Communist bloc country through the import of technology from the United States. The Act established a licensing system through the Office of Export Control in the Department of Commerce. The Office of Export Control established a two-tier licensing system. On one level was the general license, which permitted the export of most goods to most countries without specific application by the exporter. The second type, known as a validated license, required specific authorization from appropriate agencies of the US government for exports to Communist bloc countries. The primary criteria for the de-

nial or approval of a validated export license to Communist bloc nations was the degree to which the exported commodities: (1) contributed to the military or economic potential of the country; (2) would be directly applicable for military purposes; and (3) were available in other countries.⁷

In recent years, there has been a gradual relaxation of controls over exports to countries with which trade had hitherto been limited by statute. In 1956, some commodities were exported under general licenses to the Soviet bloc. A year later, Poland was placed in a separate category, for which few products required validated licenses. Rumania was added to this category in 1964. By now, several hundred commodities have been placed on the general license list for East European exports.

In 1969, a new Export Administration Act replaced the Export Control Act of 1949, but maintained the machinery for control of exports. This statute was intended to enhance the prospects for trade having no direct military significance. Its more lenient terms are undergirded, however, by the rigid controls of the Trading with the Enemy Act of 1917, which have been employed to restrict trade with Cuba, North Korea, and North Vietnam. Trade with the Communist bloc countries is further regulated by the Mutual Security Act of 1954, the Agriculture Control Trade and Assistance Act of 1954, and the Mutual Defense Assistance Control Act of 1951 (the "Battle Act"). Through this set of statutory constraints, the 15 NATO nations have established the so-called Coordinating Committee (COCOM) to coordinate NATO restrictions on the flow of militarily significant trade with the Communist bloc countries. There have been some substantial differences in view between the United States and the other COCOM countries, which have

A useful discussion of these issues can be found in J. P. Hardt and George D. Holliday, *U.S.-Soviet Commercial Relations: The Interplay of Economic, Technology Transfer, and Diplomacy*, Committee on Foreign Affairs, US House of Representatives, June 10, 1971. This study also discusses related aspects of the transfer of technology by the United States to the Soviet Union.

regularly been more liberal in their interpretation of the range of goods that should be embargoed. As a result, COCOM countries regularly export commodities to the Soviet bloc which are prohibited to United States exporters.

There is considerable evidence to suggest that statutory measures to support US restrictions on trade with potential or actual enemies have been based upon a grossly exaggerated set of expectations. A recent study of the history of US-Soviet trade, and of American efforts to inhibit such trade by statute, argues that economic warfare measures must have a direct major impact on the military or economic potential of an adversary if they are to be successful.¹ US strategy to undermine the military capability of Nazi Germany by saturation bombing of supposed bottlenecks in the German economy was not really successful. While the Germans were prevented from producing adequate supplies of some strategic items, they were nevertheless able to maintain a formidable military capability. "Denials, whether by bombing or embargoes, to be really effective must be very broadly based and nearly complete." Moreover, "at present, in peacetime, even a very tight embargo may be a cause of passing inconvenience and delay, and perhaps a small cost, but no more than that. Small costs like these are especially easy for a centrally-planned economy to bear."² Arguing that an embargo must be virtually airtight to achieve a significant effect, the author concludes that a US trade embargo against the Soviet Union could not be very effective in inhibiting Soviet economic and military development.

By thus establishing a very high set of expectations for economic warfare, such techniques have often been dismissed since the mid-1950s, when they were tried and found wanting as almost wholly ineffective. I would argue, however, that this perspective on economic warfare is incorrect.

¹ F. D. Holzman, "East-West Trade and Investment Policy Issues: Past and Future", in *Soviet Economic Prospects for the 70's*, Joint Economic Committee, US Congress, June 27, 1971.

² *Ibid.*, p. 663.

and only serves to discourage US policymakers from taking advantage of one of our most formidable long-term assets, the capacity of the US economy to support our foreign policy objectives. Economic warfare can be effective, and a useful adjunct to other foreign policy initiatives, if only our expectations are put in the proper perspective.¹⁰

Economic warfare cannot be expected to carry the entire burden of containing a strong and aggressive power. As one of several coordinated elements in a broad foreign policy strategy, however, economic warfare can make an important contribution to achieving long-term foreign policy objectives in relation to the Soviet Union and other nations, and can be highly effective in the short term. Economic warfare can be a useful device for affecting the pattern of resource allocation within the target country. Denial of trade in some areas, while encouraging it in others, can alter the pattern of growth in an economy that favors one sector while leaving another dependent upon foreign resources.

With regard to the Soviet Union, one of our most potent assets is our consistent ability to supply agricultural exports to meet shortfalls in Soviet domestic production. The Soviets have made a major policy decision to alter the main source of protein from food grains to livestock. The 1971-75 economic plan sets rather ambitious goals for increasing the production of basic agricultural commodities some 3.5 percent above the 1970 level. The plan also calls for a ten percent increase in investment in fixed assets, new construction, and machinery and equipment. When one allows for the impact of favorable weather upon the base year, 1970, the

¹⁰ After considerable experience with interdiction bombing, the US Air Force has learned that what could be expected from this strategy were important disruptions, slowdowns in deliveries to battlefield destinations, reduction in the number of days an opponent could engage in firefights, and general confusion in enemy logistics. When these revised expectations are embodied in the planning process, an interdiction campaign can be extremely successful. The culmination of an effective ground campaign by US forces in Korea, maintaining pressure on the Chinese Communists to expend their munitions inventory, and the defeat of the Chinese forces while inflicting over one million casualties on them.

required annual increase will have to be a third higher, or 4.5 percent, to meet the objectives set.¹¹

The overall increase in inputs to the agricultural sector—primarily industry inputs—will undoubtedly strain Soviet industrial capacity. This is likely to be especially true for construction materials and agricultural fertilizers. The broad details of the plan are summarized below.¹²

Investment directly into agriculture is scheduled to be nearly 129 billion rubles (about \$172 billion) during 1971-75.¹³ Meeting this goal will require agricultural investments to grow an average of 9.5 percent a year and to rise as a share of all investments from 22.5 percent in 1970 to 27.5 percent in 1975.

Total investment in machinery and equipment (producer durables) for farms during 1971-75 is planned to be 35.5 billion rubles, a 54 percent increase over the value of such deliveries to farms in the last half of the 1960s.

About one fifth of total investment in agriculture is to be expended on land amelioration, mostly reclamation by irrigation and drainage. The boost in investment in land reclamation is to result in an expansion of about 30 percent in the stock of irrigated and drained land. In support of the reclamation effort, Soviet industry is to deliver new construction equipment into agriculture in an amount equal to nearly 90 percent of the total inventory of such equipment in the overall construction sector at the end of 1970.

¹¹ B. Diamond and C. B. Kruget, "Recent Developments in Output and Productivity in Soviet Agriculture," in *Soviet Economic Prospects for the 70's*, p. 319.

¹² *Ibid.*, p. 320.

¹³ The nominal value of the ruble is 0.75 rubles to US \$1. Conversion at this value gives a rough idea of the magnitude of economic quantities involved in the program.

In addition to a step-up in the flow of investment goods to agriculture, the flows of other types of industrially produced goods to farms are to be expanded. Overall deliveries of major types of producer goods used in current productive activity in agriculture are to rise at an average annual rate of 6.5 percent during 1971-75.¹¹ Especially noteworthy are a scheduled rise of two thirds in the use of fertilizer and a significant growth in use of plant protection materials (pesticides and herbicides). The required increase in production of these goods will necessitate further large investments in the chemical industry.

All of the 19.5 percent increase in output for the period 1971-75 is to come from the country's collective and state farms. Production from individual holdings, which contributed 30 percent of total output in 1970, is implicitly slated to decline slowly in the 1971-75 period.

As a result, if the initial plans for output in the private sector are carried out, the above measures for achieving a rapid advance in output in the socialized sector may be partially offset.

This major increase in agricultural investment is especially important from the perspective of international trade in agricultural commodities. There is likely to be a sustained Soviet requirement for the importation of food and feed grains if the livestock production goals are to be retained. As a consequence, it is expected that the Soviet Union will be a major importer of grain for the next three to five years, and perhaps beyond, as a consequence of the great variability of yields of Soviet agriculture. The only major grain exporting areas of the world are North America and Australia. Of

¹¹ The major types of producer goods included here are fertilizer, electric power, fuels and lubricants, current repair services, rubber products, industrially produced feeds, and lime.

these areas, only the United States has the capability of being an exporter on the scale required by the Soviet Union. In these circumstances, what might be accomplished by using agricultural exports as an instrument of economic warfare?

It is not reasonable to expect that denial of United States agricultural exports to the Soviet Union would bring the Soviet economy to its knees. In fact, with a few rare exceptions, virtually every modern economy is immune from crippling economic warfare of this variety. What economic warfare *can* do in these circumstances is the following:

- (1) Because imports of grains are important to the Soviet plan for agriculture, denial of these grains can have an important impact on agricultural resource allocation within the Soviet Union, and consequently affect the success of the plan.
- (2) In order to make the agricultural plan effective, in the absence of United States grain imports, the Soviets would be forced to take resources away from other sectors of the economy, especially the defense sector.
- (3) The Soviet agricultural plan is politically important, not only for reasons of economic autarchy, but also to restructure the system of incentives in order to raise productivity in other sectors of the economy. Thus, it will not be lightly abandoned.
- (4) The political stake that the Soviets have in the success of their agricultural program may open up diplomatic opportunities for the United States to obtain political *quids pro quo* for our agricultural exports.

Similar opportunities in other circumstances will be discussed at a later stage. These opportunities arise chiefly from the US position as a major food exporter to regions of the

world whose agriculture is inadequate to support domestic needs. If one's expectations as to the effectiveness of manipulating foreign agricultural sales are distorted by the World War II notion of bringing an opponent to heel, then economic warfare is likely to be a failure. On the other hand, if one views economic warfare as a device for significantly influencing the behavior of potential adversaries, then such a strategy can make a useful contribution to the achievement of foreign policy objectives without resort to the threat or use of force.

3

Agricultural Exports as an Instrument of Economic Warfare

US Export Supply

The United States, in particular, and North America in general, are the principal sources of agricultural commodities for the world market. The US lead in agriculture is greater than Arab dominance of the petroleum market. This dominance has been growing as a consequence of a multiplicity of factors, such as declining agricultural productivity in some regions (and especially in the Soviet Union), a high birth rate, the shift in climatological patterns in North Africa, and the shift in taste from low quality protein (direct consumption of grain) to high quality protein (livestock) as a consequence of rising *per capita* income. Table 2 indicates world production trends since the early 1960s.

While world agricultural production has increased 30 percent since 1960, *per capita* production has increased only two percent in the developing nations. This is the result of population increases outstripping the 29 percent increase in aggregate agricultural production in these nations. The developed nations of the world increased in production by a similar magnitude (31 percent), but were able to increase *per capita* consumption by 7 percent because of more moderate population growth. Those data conceal great differences

TABLE 2
World Agricultural Production, 1966-73

Total Agricultural Production
(1961-65 = 100)

Year	World ^a	Developed Countries ^b	Developing Countries ^c
1961-65	100	100	100
1966	108	110	105
1967	112	113	110
1968	116	117	114
1969	117	116	119
1970	120	118	123
1971	124	123	126
1972	123	123	124
1973	130	131	129

Per Capita Agricultural Production
(1961-65 = 100)

Year	World ^a	Developed Countries ^b	Developing Countries ^c
1961-65	100	100	100
1966	102	106	97
1967	104	108	100
1968	105	111	101
1969	104	109	102
1970	105	110	103
1971	107	113	103
1972	104	112	99
1973	108	117	102

^a Excludes Communist Asia.

^b North America, Europe, U.S.S.R., Japan, Republic of South Africa, Australia, and New Zealand.

^c Latin America, Asia (except Japan and Communist Asia), Africa (except Republic of South Africa).

Source: Overseas Development Council.

among the nations of the world. Many have actually experienced substantial retrogression in recent years.¹⁵

Because of dwindling world grain reserves, the ability of the world agricultural economy to respond to shortfalls in supply is increasingly dependent upon North American, and principally US, agricultural exports. Table 3 summarizes recent grain reserve trends on a worldwide basis.

TABLE 3
World Grain Reserves, 1961-74

Year	Reserve Stocks of Grain	Grain Equivalent of Idled US Cropland	Total Reserves	Reserves as Share of Annual Grain Consumption	
	(millions of metric tons)			(percent)	(no. of days)
1961	154	68	222	26	95
1962	131	81	212	24	88
1963	125	70	195	21	77
1964	128	70	198	21	77
1965	113	71	184	19	69
1966	99	79	178	18	66
1967	100	51	151	15	55
1968	116	61	177	17	62
1969	136	73	209	19	69
1970	146	71	217	19	69
1971	120	41	161	14	51
1972	131	78	209	18	66
1973	105	20	125	10	37
1974 ^a	89	0	89	7	27

^a Projection

Source: Overseas Development Council

¹⁵ A UPI dispatch (April 8, 1974) reports that India's grain production has fallen seven million metric tons short of the government's target, indicating that India would be in the market for substantial quantities. India's disastrous drought-induced food crisis of 1966-67 required the importation of ten million tons of grain. World grain reserves, however, have been reduced from 178 million metric tons (equivalent to 66 days of consumption) to an estimated 89 million metric tons (27 days) in 1974. The consequences of a major crop failure in India this year could be grave.

Historically, increases in agricultural output have come as a consequence of increases in planted acreage and yields per acre. (Table 3 indicates that the former option is no longer available in the United States; cropland acreage withheld from planting has declined from 60 million acres in 1972 to zero in 1974.) There have also been substantial improvements in the yield per acre in cereal production as a result of improved technology—particularly in high-yield strains of wheat and rice. In some cases, particularly Pakistan, the yield per acre has nearly doubled.¹⁶

As noted earlier, however, as *per capita* income increases there is a marked change in preference in favor of the consumption of high quality protein, especially livestock. In these circumstances, livestock convert high protein feed grains into beef, pork, and poultry. On a *per capita* basis, the average American consumes over one ton of grain per year, only 150 pounds of which are consumed directly; the remainder is consumed indirectly in the form of animal protein.¹⁷ It is in the production of feed grains that the United States has its most conspicuous and enduring predominance.

The United States, which exports 75 percent of total North American feed grains in the international market, is also dominant in soybean production, the most important source of livestock protein. Throughout the 1960s and 1970s, the United States produced 90 percent of the world's exports of soybeans.¹⁸ Moreover, because of the importance of soybeans to the diet of both the developed world (in the form of indirect consumption through livestock) and the underdeveloped world (nearly one billion people consume soybean products directly as a protein source), that dominance is likely to continue for many years to come. With the exception of

¹⁶ I. R. Brown, *World Without Borders* (Vintage: New York, 1973), p. 98. These developments are popularly known as the Green Revolution.

¹⁷ *Ibid.*, p. 96.

¹⁸ I. R. Brown, *World Without Borders* (Vintage: New York, 1973), p. 98. The value of soybean exports exceeds the dollar value of computers, jet aircraft, and wheat.

Brazil, which has begun to produce soybeans, the United States is the only nation with a significant surplus available to the international export market. The ability of the United States to expand soybean production is limited, however, by technology and the absence of unplanted acreage. In recent years, the major portion of the fourfold increase in the soybean crop (85 percent) has come about as a consequence of additional planting of soybeans. Increases in yields are not vulnerable to the technological changes we have experienced with wheat and rice.¹⁹

While there has been a fourfold increase in the production of soybeans since 1950, yields per acre have increased only one percent (one fourth of the average annual increase for corn over the same period). Nongrain substitutes for protein are difficult to obtain. The most important, fish, has been a declining source of protein since 1969, after increasing at a five percent annual rate since 1950. Moreover, several of the 30 kinds of commercial grade fish now taken will not sustain the current level of catch.²⁰ Advanced technological efforts to produce synthetic forms of protein from petroleum are not yet a cost-effective solution, and may not be so for several years. This situation has led one observer to note:²¹

We may be witnessing the transformation of the world protein market from a buyer's market to a seller's market, much as the world energy market has been transformed over the past few years.

The Worldwide Demand for Agricultural Imports

As a consequence of several factors, including organizational shortcomings, inadequate investment in agriculture, increasing population, climatological shifts, and increasing *per capita* income, there has been a worldwide increase in the demand for agricultural products from the surplus-pro-

¹⁹ The soybean is a legume with a built-in supply of nitrogen, and consequently is not susceptible to nitrogen fertilizer. *Ibid.*, p. 14.

²⁰ *Ibid.*, p. 15.

²¹ *Ibid.*, p. 17.

ducing nations of the world. Since 1971, US food grain exports have nearly doubled, from 16.9 million metric tons to 31 million metric tons in 1973-74 (estimated). Moreover, worldwide exports from the major producing nations have increased by 27 percent over the same period. The export of food grains reflects substantial shortfalls in many parts of the underdeveloped world as a result of extended droughts.

The export of feed grains, which has increased almost as spectacularly, underlines the constant shift in preference for the indirect consumption of feed grains *via* livestock. Japan increased its imports of feed grains 28 percent over the same period. These growth rates exceed the average increase of 23.4 percent for US feed grain exports as a whole. These data are reproduced in Tables 4 and 5.

Statistics on Soviet grain imports reflect considerable variability. In the past two decades, the Soviets have experienced substantial production shortfalls every 3.3 years. Table 6 (on page 26) emphasizes the volatility of Soviet production.

In the most recent year for which complete data are available, FY 1973, the Soviet Union purchased over 38 million metric tons of grain—the largest such purchase in recorded history. Based upon what is known of the Soviet agricultural program, it can be anticipated that the Soviet Union will be a periodic net importer of grain for many years to come. As mentioned earlier, the Soviet program for the expansion of their livestock inventory is a high priority program. It is so important that, despite the major crop failure in FY 1973, the Soviets did not slow down their program of grain imports. In fact, they increased *per capita* consumption. The Soviet Union has a long way to go before their livestock inventory can approach the United States. At the present time, the US has approximately 40 million head of beef cattle, compared to some 2 million in the Soviet Union. Substantial augmentation of agricultural output will take many years; and frequent supplementation by imports of

TABLE 4
Wheat Production, Exports, and Imports
Selected Countries and Regions^a
(in millions of metric tons)

	1971-72	1972-73	1973-74 (est.)
<i>Exports</i>			
Canada	13.7	15.7	13.7
Australia	8.4	5.4	6.8
Argentina	1.2	3.3	1.3
Western Europe	8.6	12.0	12.0
USSR	5.5	2.5	4.0
USA	16.9	32.0	31.0
World Total	55.5	73.5	70.3
<i>Imports</i>			
Western Europe	12.2	13.0	13.5
Japan	5.0	5.5	5.5
Eastern Europe	4.8	4.7	4.0
Mainland China	3.0	5.4	6.5
USSR	3.4	14.9	5.5
World Total	55.5	73.5	70.3
<i>Production</i>			
Canada	14.4	14.5	17.0
Australia	8.5	6.6	13.2
Argentina	5.7	6.8	5.4
Western Europe	51.0	51.3	49.8
USSR	98.8	85.8	100.0
East Europe	30.0	30.7	31.5
USA	44.0	42.0	47.0
World Total	340.6	331.1	354.8
<i>Consumption</i>			
World Total	336.6	355.4	360.4

^a Subcommittee on Foreign Agricultural Policy of the Committee on Agriculture and Forestry, US Senate, *World Food Security* (Washington: US Government Printing Office, November 12, 1973), pp. 19-20.

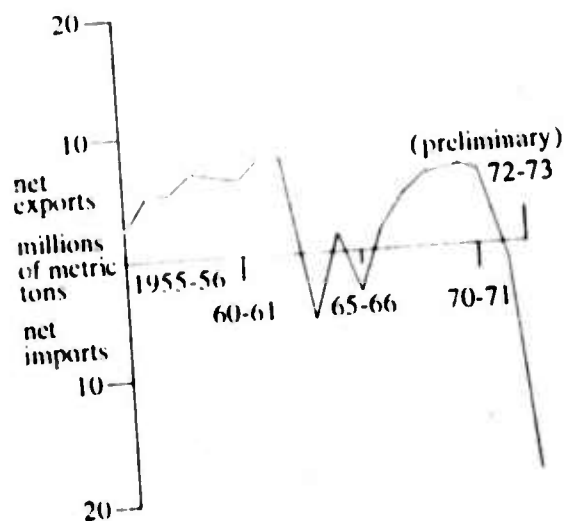
TABLE 5
Feed Grains: Production, Exports, and Imports
Selected Countries and Regions²¹
(in millions of metric tons)

	1971-72	1972-73	1973-74 (est.)
<i>Exports</i>			
Canada	4.4	3.6	3.5
Australia	3.2	1.8	1.9
Argentina	6.3	4.3	7.1
South Africa	2.2	3.3	0.3
Thailand	2.3	1.4	2.3
Western Europe	11.4	11.0	11.5
USA	20.7	35.5	37.3
World Total	53.4	62.6	66.0
<i>Imports</i>			
Western Europe	26.4	28.0	29.0
Japan	10.0	21.0	13.1
USSR	3.9	4.9	5.0
Eastern Europe	5.0	3.7	3.7
World Total	53.4	62.6	66.0
<i>Production</i>			
Canada	22.2	18.9	19.2
Australia	5.8	3.6	5.3
Argentina	9.5	15.5	15.6
South Africa	10.2	4.6	10.0
Thailand	2.3	1.4	2.6
USSR	70.6	70.2	85.0
Eastern Europe	50.1	55.1	55.3
USA	189.7	181.9	191.9
World Total	563.4	544.8	578.4
<i>Consumption</i>			
World Total	547.7	563.4	582.4

²¹ *Ibid.*

TABLE 6

Net Soviet Grain Trade
1955-56—1972-73



Source: Brown, "The Next Crisis, Food?" loc. cit., p. 8.

predominantly US grain, particularly feed grains, will be necessary. A recent study of the Soviet agricultural sector, published by the Joint Economic Committee of the Congress emphasized these points:²¹

Soviet prospects for catching up with US farm output by 1975 are poor. The continuation in 1971 of a sharp fall in Soviet crops and a record harvest in the US put the gap in crop production below the 1966 level. An even worse harvest in 1972 eroded the Soviet position

²¹ F. D. Whitehouse and J. F. Havelka, "Comparison of Farm Output in the U.S. and USSR, 1950-1971," in *Soviet Economic Prospects for the 70's*, p. 356-358.

TABLE 7
USSR: Progress in Meeting 1971-75 Plan Goals
for Agriculture^a
(in millions of metric tons)

	Goals for average production in 1971-75	Average actual production in 1971-72 ^b	Average production needed in 1973-75 to meet 1971-75 goals
Grain	195.0	171.0	211.0
Potatoes	(c)	85.1	(c)
Vegetables	(c)	20.0	(c)
Cotton	7.0-7.2	7.2	6.9-7.2
Sugar beets	87.5	73.9	96.6
Sunflower seeds	6.7	5.5	7.5
Meat	14.3	13.5	14.8
Milk	92.3	83.2	98.4
Eggs ^d	46.7	46.7	46.7
Wood	.464	.422	.492

^a Official production data are presented in this table to permit a comparison of actual production with plan goals. In the case of grain and sunflower seeds, the gross production overstates significantly the net usable output—by an average of about eight percent for sunflower seeds and 19 percent for grain.

^b Based on preliminary estimates of 1972 production and actual production in 1971.

^c Not available.

^d Billions of eggs.

further. Although Soviet leaders are counting on substantial gains in 1973-75 to bring production back in line with the original 1971-75 plan goals, the actual gains are very unlikely to bring the USSR's farm output up to 1970 US output by 1975.

The 1971-75 plan goals for the production of meat, eggs, and cotton could be achieved, but the increase in targets for production of milk, grain, sugar beets, and sunflower seeds, are probably beyond reach (see Table 7). In order to produce an average of 195 million (gross) tons of grain in 1971-75, for example, the USSR would have to get an average crop of 211 million tons in 1973-75—43 million tons more than 1972 crop. Even if achieved, this would not yield enough net usable grain to come up to the US level of 1970.

More important, the USSR surely will face increasing difficulties in 1973-75 in meeting requirements for grain from domestic resources if the leadership holds to its commitment to strengthen the livestock sector. As indicated above, the expansion of livestock herds and increased feed rations per animal, coupled with continued inefficiency in converting feed to live weight, have raised Soviet requirements for feed substantially. At the same time, yields of forage crops have virtually stagnated, placing the burden of supporting the livestock program on feed grains. The USSR, however, will not be able to grow the corn and soybeans which are the basis of US rations. Thus, Brezhnev's livestock program, if it is maintained, will become increasingly costly, in part because of a continuing need to buy foreign grain.

Many other factors will influence farm production in both the US and USSR—political development as well as economic constraints. Unusual developments in export demand, for example, could result in more rapid growth of US output, using land now held out of production to meet output needs. In the USSR, on the other hand, the further expansion of farm output depends largely on resources and technology still untested under Soviet conditions and on policies not fully formulated. Continued Soviet purchases of US feed grains no doubt will stimulate both USSR output of livestock products and US output of feed grains. The uncertainty surrounding future grain purchases notwithstanding, an extension of recent trends in US and USSR farm outputs suggests that Soviet production might increase to only about 85-88 percent of US output by 1975.

For different reasons, circumstances in the underdeveloped world also suggest a continued interest in purchasing US agricultural imports. Historically, the nations of Africa and Asia were self-sufficient in grain production; but this has

changed since the mid-1930s. They have gone from a net exporting position of three million metric tons exported annually in the 1934-38 period, to a net importing position of 43 million metric tons in 1973, according to an Overseas Development Council estimate.¹

Table 8 points out the dramatic shifts that have taken place in the past four decades in the distribution of net grain importers and exporters. The most conspicuous aspect of this shifting pattern is the almost total dependence of much of the world on North American grain production.

TABLE 8
The Changing Pattern of World Grain Trade^a

Region	1934-38	1948-52	1960	1966	1973 ^b
	(millions of metric tons)				
North America	+ 5	+ 23	+ 39	+ 59	+ 88
Latin America	+ 9	+ 1	0	+ 5	- 4
Western Europe	24	22	25	- 27	- 21
Eastern Europe and USSR	+ 5		0	- 4	- 27
Africa	+ 1	0	- 2	- 7	- 4
Asia	+ 2	- 6	- 17	- 34	- 39
Australia and New Zealand	+ 3	+ 3	+ 6	+ 8	+ 7

^a Plus sign denotes net exports, minus sign denotes net imports.

^b Estimate.

Source: Overseas Development Council.

This dependence is more stark than the dependence of Western Europe and Japan on Middle Eastern oil, primarily because of the inadequate character and high costs of substitutes for US agricultural products as compared to the intermediate and long-term substitution possibilities for petroleum.

¹ During a severe drought in India in 1966, one third of the 34 million tons imported by Asian nations was imported by India. Droughts could vastly increase import demands on a periodic basis.

These increases in demand, when set against supply shortfalls and changes in taste in the developed world, have left a very formidable burden on the underdeveloped nations. Since FY 1972, the grain imports of the underdeveloped nations of the world have increased from 20.6 million metric tons to 26.7 million in FY 1974.²⁶ At the same time, there has been a 207 percent increase in the price of grain, and this more seriously inhibits the development of many of the nations involved than the increase in the price of petroleum in recent months.

As a consequence of unfolding events affecting both the supply and demand for agricultural commodities on a worldwide basis, the United States has—without planning for it—acquired an unparalleled capacity for influencing international economic welfare through manipulation of agricultural exports. Stated simply, the combination of an increasing worldwide demand for the agricultural products the United States produces in abundance, and the absence of significant alternative sources of production, will place the United States in a unique peacetime position. We have, in short, an effective near-monopoly of the raw materials of subsistence. For the near and intermediate term, moreover, the inevitable growth of foreign demand and the dominating position of US supply make it likely that this situation will continue for several years.

The strategic implications of these unforeseen circumstances have not been widely explored, nor have the tactics for exploiting them been developed in a systematic manner. The following chapters of this essay will attempt to sketch some of the strategic dimensions of the situation, as well as how they might be exploited to advance the national interests of the United States.

²⁶ US Department of Agriculture estimate

4

Implementing Economic Warfare

The United States has not employed agricultural exports as a component of economic warfare in any serious manner in peacetime. As a consequence, it lacks the bureaucratic and institutional mechanisms to do so. But we have had considerable experience with similar institutional arrangements that are compatible with the conduct of economic warfare, and this experience could readily be drawn upon.

Two mechanisms would be useful to implement such a policy. The first is to obtain tight control by the federal government over the flow of agricultural exports. There has been substantial pressure in recent years to do this for reasons that are primarily protectionist in nature: to minimize the impact of foreign demand on domestic US prices by restricting exports to a level that would limit price increases to an acceptable level. Until the aftermath of the FY 1972 grain sales to the Soviet Union, there was little serious effort to carry out such a program because of its potential adverse effects on international trade. The impact of the July 1973 embargo on soybean exports—especially in Japan and Europe, which are heavily dependent on US soybeans—was formidable, however, and illustrated the kind of reaction that could be expected from any significant interference with international agricultural trade. But the licensing machinery established under the Export Control Act of 1949 does pro-

vides the necessary vehicle for limiting agricultural exports if we should wish to do so.²⁷ Under this system, all agricultural exports would be required to obtain a validated export license, in a manner similar to present controls on the export of strategic materials and technology to the Soviet Union.

Routine commercial sales to friendly nations would be routinely approved. But exports to nations with respect to which the United States had a powerful political reason to make sales conditional upon some diplomatic arrangement, could be rigorously controlled. At the same time, this form of control would be far less intrusive than some of the proposals that have been advanced in the wake of the Soviet grain deal, the effect of which would be to make agricultural exporters almost totally subject to government monitoring of their business affairs. In addition, this procedure would transform agricultural commodities into an instrument of both economic and political significance; and United States policymakers would have available an additional tool of diplomatic leverage without major institutional change.

The flexibility of agricultural exports as an instrument of foreign policy could be further enhanced through the creation of a grain reserve that could be used entirely as an instrument of government policy. Under the PL-480 program, the United States has relied entirely on commercial surpluses to implement agricultural aid policy. As a result of increased worldwide demand for agricultural commodities, there has been a dramatic drawdown of reserves; and as a result, PL-480 shipments have fallen to one third of 1971 levels.²⁸

There are a number of current proposals for establishing a centrally operated world food reserve or an internationally coordinated system of national reserves to cope with food

²⁷ This Act was replaced with Export Administration Act of 1969, which was extended on August 29, 1972. The purpose of the new Act was to reduce the extent of controls, but the machinery was retained.

²⁸ Worldwide reserves are almost entirely held by the United States, Canada, Argentina, and Australia. Brown, *loc. cit.* p. 17.

shortages.²⁰ In general, these schemes are humanitarian in purpose, and are designed to assist in the distribution of existing grain reserves among nations that suffer from natural disasters resulting in significant shortfalls. There has also been much concern among commercial agricultural interests over the prospect that large grain reserves subject to government control would become a significant "overhang" on the market, resulting in uncertainty in agricultural prices. To a significant extent, this concern is justified; high agricultural prices can be as much of a deterrent to consumption as physical shortages of the products themselves.

A proposal more consistent with the commercial interests of the agricultural exporting nations would be the establishment of a US government reserve, carefully partitioned from the domestic market, that would be employed for both humanitarian and political purposes. The most important attributes of this system would be the following:

- (1) Any commercial sales from this reserve, whether foreign or domestic, would be at a price that approximated recent market prices at the time of sale.
- (2) The food reserve should be accumulated by the government in a manner that would minimize the impact of such purchases on prices in domestic and foreign markets. This could be accomplished by adding to the reserve only in years when there is a significant surplus in domestic agricultural production.
- (3) Humanitarian relief would be coordinated with other agricultural exporting nations; but the reserve would

²⁰ The case for various reserve schemes has been made in T. Josline, "An International Grain Reserve Policy," in *World Food Security*, Report of the Subcommittee on Foreign Agricultural Policy of the Committee on Agriculture and Forestry, US Senate, November 12, 1970; S. S. Rosenfeld, "The Politics of Food," *Foreign Policy* (Spring 1974), pp. 17-29; R. D. Harsen, "The Politics of Scarcity," in J. W. Howe, ed., *The U.S. and the Developing World, Agenda for Action* (New York: Praeger, 1974), pp. 51-65.

34 *Can We Avert Economic Warfare in Raw Materials?*

be subject to the equally valid claims of US diplomatic interests.

The availability of both the mechanism of control and the resource of a domestic reserve would make possible the exercise of economic warfare in agricultural commodities as a routine component of US diplomacy. Not unlike many dimensions of existing diplomatic practice, the mere existence of the institutional mechanisms would constitute a formidable contribution to the effectiveness of US diplomacy toward countries for which agricultural imports constitute a national necessity.

5

Strategic Implications

The addition of a viable potential for economic warfare could be a useful diplomatic tool to add to the options available to US policymakers in the period ahead. For many years, the notion of US policy as reflecting the "powerlessness of the powerful" has underlined the limits on US policy choices. In the 1960s, it was argued—only half in jest—that the world's only two superpowers were North Korea and North Vietnam, because of their serious military provocations against the United States while in a position of stark military vulnerability and simultaneous political immunity to US retaliation.

In fact, this circumstance reflects the limited number of policy options available between simply absorbing the political or military provocations of minor powers and responding with an undue amount of force. This is quite unlike the US-Soviet case, where there is now a well-developed theory of graduated response at varying levels of provocation.¹⁰ Much less attention has been devoted to the range of appropriate responses to small and medium powers in a political crisis.

The feasibility of employing agriculture for diplomatic ends is by no means the whole answer to the problem of

¹⁰ See, for example, Herman Kahn, *On Escalation: Metaphors and Scenarios*, revised edition (Baltimore: Penguin, 1968).

dealing with minor power provocation, any more than it could be a suitable response to the Soviet Union under many circumstances. It does, however, provide for an alternative for US policymakers that could be useful under some important circumstances. The most important potential application of the agricultural export lever is as a means of bringing influence to bear against the Soviet Union. There are two aspects of Soviet agriculture that tend to enhance the utility of economic warfare:

- (1) The Soviet Union has traditionally reacted to periodic shortages in domestic agricultural production by belt-tightening measures. There have been six major shortfalls in agricultural production in the past 20 years, while the United States has had major agricultural shortfalls once every two decades since the Civil War. This practice is now less acceptable than it once was, because of the adverse political impact of inadequate qualitative and quantitative agricultural production on the system of domestic incentives and labor productivity in the industrial sector. As a result, the Soviet Union is likely to maintain a strong preference for importing agricultural commodities to meet shortfalls.
- (2) A major effort is being made by the Soviets to alter the composition of their diet by substituting livestock consumption for food grain consumption. Although Soviet *per capita* grain consumption almost equals that of the United States, virtually all grain is consumed directly, whereas US *per capita* consumption is largely indirect consumption through livestock. Soviet feed grain production is likely to be inadequate for this task for the foreseeable future. The Soviets currently have only two million head of beef cattle. To build up an increasing inventory of beef cattle in the face of fluctuating domestic feed grain

production, imports of US feed grains are likely to be a permanent requirement.

These circumstances provide some explicit opportunities to affect Soviet political behavior, if the US chooses to employ its leverage as a consequence of its dominance of the agricultural export market. The first is to influence resource allocation within the Soviet economy. Withholding feed grains from the Soviets would have a major impact upon resource allocation if the Soviets sought to maintain their objective of increasing livestock production. Livestock production imposes very high infrastructure costs in any case. In addition to the problem of providing adequate feed grain supplies, there are costly feedlots to develop and maintain, major improvements to be made in the Soviet system of interfarm marketing, in the rural road network, and in marketing and distribution channels, and substantial bureaucratic changes to support the necessary redirection of Soviet agriculture.

The leverage of US feed grain exports would be magnified if they should be withheld or not augmented during periods of significant shortfalls within the Soviet Union. Major shortages of feed grain would require drastic shifts in the allocation of resources from other sectors of the economy to the agricultural sector, thereby inhibiting Soviet industrial and military potential. In this regard, manipulation of agricultural exports to the Soviet Union is likely to have a much more significant impact on resource allocation within the Soviet Union than withholding industrial technology. Commenting on this phenomenon, Professor T. C. Schelling has stated:¹¹

Wheat shipments may have the same effect on military programs as jet engine sales. Wheat shipments may permit the Soviets to keep chemical industries oriented

¹¹ Testimony of Professor T. C. Schelling, *Hearings on East-West Trade*, Committee on Foreign Relations, US Senate, November 1964, p. 215.

toward munitions rather than fertilizers; jet engine sales may permit the Soviets to allocate engineering resources to consumer goods rather than jet engines.

This view is reinforced by recent research into US-Soviet dollar-ruble ratios. According to a CIA study, a ruble could buy somewhat less than a dollar's worth of food.³² But its value would appear to be much greater in relation to most major industrial products. For example, Holzman cites a ruble as worth \$9.09 in the purchase of electrical control apparatus, \$8.08 in buying power boilers and steam turbines, and \$5.56 in relation to metal-cutting machine tools. The stark difference between the exchange ratios for some industrial products and those for agricultural commodities is explained by the fact that the defense sector receives priority in the allocation of investment and research over the agricultural and consumer goods sectors. Holzman concludes:³³

An embargo policy designed to prevent the USSR from reaping large gains from trade would do well to concentrate on low dollar ratio commodities.

In addition to the economic implications of the manipulation of agricultural exports, substantial political costs could be imposed on the Soviet leadership responsible for shortfalls in agricultural output.³⁴ This is particularly true in a context where the Soviet leadership has sought to raise Soviet expectations for substantial improvement in the Soviet diet in the near future. It is not apparent as to what extent the Soviet leadership would be willing to absorb these political costs in order to avoid cutting back on the armed forces. It may be possible to force such a choice on the Soviet leadership. This is an option that has not hitherto been available to US policymakers.

³² Cited by Holzman, *loc. cit.*, p. 665.

³³ *Ibid.*

³⁴ It has been widely speculated that the failure of the Soviet harvest in 1963-64 was a primary cause of Khrushchev's fall from power in October 1964.

There are other possibilities—perhaps less spectacular, but significant nevertheless—where the United States could exploit its predominance in agricultural production. A example would be in improving its bargaining position *vis-à-vis* raw materials suppliers who are attempting to improve their terms of trade through the establishment of cartel arrangements, as the petroleum exporting nations have done. In a recent study of nine major nonfuel minerals, there appears to be at least a limited opportunity for producer nations to raise prices and improve their terms of trade with the mineral-consuming developed nations.³⁵

Denial of access to raw materials, or sharply rising prices for them, could substantially increase the cost of products within the United States, either directly or by forcing the use of inefficient and higher cost substitutes; but it is unlikely to be crippling. Nevertheless, the substantial agricultural requirements of many underdeveloped nations of the world—including the petroleum exporting nations—makes this dimension of US economic power a potentially useful instrument of international economic diplomacy.³⁶

The data presented in Tables 9 and 10 emphasize the potential for diplomatic conflict over access to foreign resources. Of 12 important minerals, the United States is more than 50 percent dependent on foreign sources of supply for ten of them, and totally dependent with respect to

³⁵ B. Vaton and K. Takeuchi, "Developing Nations and Non-Fuel Minerals," *Foreign Affairs* (April 1974), pp. 497-510. The authors studied the market for iron ore, bauxite, copper, manganese ore, lead, nickel, phosphate rock, zinc, and tin. The early prospects appear to be in bauxite and phosphate rock. A shrill characterization of the US "threat" to employ agricultural exports in bargaining over access to raw materials and the terms of trade is expressed in F. Rothschild, "Concocting the Next Crisis," *New York Review of Books*, April 4, 1974. This essay is written from the perspective of one who views this development with great alarm.

³⁶ A recent study conducted for the House Foreign Affairs Committee found a symmetric dependence of OPEC nations on imported food supplies. Congressional Research Service, *Data and Analysis Concerning U.S. Food Exports*, Committee on Foreign Affairs, House of Representatives, House Report No. 94-674, November 21, 1973.

³⁷ Morocco is reported to have tripled the price of its phosphate rock exports, but this example does not seem to have been widely emulated by other nations. See Morgan Guaranty Trust Company, *Morgan Guaranty Survey*, March 1974.

four (chromium, cobalt, manganese, and tin). A substantial fraction of the ownership of these resources is vested in either Communist bloc nations, or in underdeveloped nations whose willingness to employ conservation measures to improve their terms of trade or for political purposes is, however, yet to be demonstrated.

TABLE 9
US Import Dependence

	Imports as a percent of consumption in 1973
Bauxite	84
Chromium	100
Cobalt	100
Copper	8
Iron Ore	29
Lead	19
Manganese	100
Mercury	82
Nickel	92
Tin	100
Tungsten	56
Zinc	50

During the 1973-74 Arab oil embargo, the United States was not organized for more than two responses: military intervention, and passive resignation to accept the short-term costs of the embargo. With appropriate organization, a third alternative would have been available as an instrument of diplomacy—the manipulation of the delivery of agricultural products to the Middle East. This diplomatic lever is not only commensurate with the provocation, but also far more likely to achieve success than the establishment of a consumers cartel, as was favored in some quarters.

TABLE 10

	Percentage of world reserves
Bauxite	
Australia	30.3
Guinea	22.6
United States	.3
Other Free World	43.0
Communist Countries	3.9
Chromium	
Republic of South Africa	62.9
Southern Rhodesia	32.9
United States	—
Other Free World	2.8
Communist Countries	1.3
Cobalt	
Zaire	27.5
New Caledonia and Australia	27.1
Zambia	14.0
United States	1.0
Other Free World	8.5
Communist Countries	21.9
Copper	
United States	22.4
Chile	15.7
Canada	8.9
Other Free World	41.6
Communist Countries	11.4
Iron Ore	
Canada	14.5
Brazil	10.8
United States	3.6
Other Free World	24.5
Communist Countries	46.6

	Percentage of world reserves
Lead	
United States	38.9
Canada	13.2
Australia	8.3
Other Free World	22.2
Communist Countries	17.4
Manganese	
Gabon	15.0
Republic of South Africa	8.5
United States	—
Other Free World	35.0
Communist Countries	41.5
Mercury	
Spain	49.1
Yugoslavia	8.7
United States	7.2
Other Free World	21.9
Communist Countries	13.2
Nickel	
New Caledonia	33.3
Canada	13.6
Cuba	9.1
United States	.4
Other Free World	21.9
Communist Countries	21.6
Tin	
Thailand	33.5
Malaysia	14.4
Indonesia	13.2
United States	.1
Other Free World	21.8
Communist Countries	17.1

Tungsten

United States	6.4
Other Free World	16.1
Communist Countries	77.5

Zinc

Canada	26.0
United States	22.9
Other Free World	35.9
Communist Countries	15.3

NOTE: Reserves are defined as known, identified deposits of mineral-bearing rock from which minerals can be extracted profitably with existing technology and under present economic conditions. Aside from the U.S., nations shown are those which individually account for at least eight percent of total world reserves. "Communist Countries" category excludes Yugoslavia.

Source: *Morgan Guaranty Survey*, March 1974.

It is difficult to overlook the "proxy war" aspects of the 1973 oil embargo. The Soviets were a powerful factor in both its intensity and duration through its leverage over its Arab clients. By having available a mechanism that could have been used against the oil producing nations participating in the embargo, the United States would have had a viable means of diplomatic influence to support its objectives in the region without resort to the threat or use of force. There are numerous examples of what could be obtained by these means—from extracting military basing rights from an otherwise reluctant nation, to inhibiting alliances hostile to the interests of the United States. Willingness to exploit our advantages would almost certainly depend upon the stakes involved. It is unlikely that this weapon would ever be used with much enthusiasm, but its mere existence could constitute a new force in the arsenal of American diplomacy.

CHANGING AMERICAN FOREIGN POLICY IN THE
MIDDLE EAST: AN ANALYSIS

By
Edward S. Boylan

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CHANGING AMERICAN FOREIGN POLICY IN
THE MIDDLE EAST: AN ANALYSIS

by Edward S. Boylan

With the advent of the "energy crisis" with all its ramifications, there have been increasing calls for a reexamination of American foreign policy in the Middle East, in particular the strong support the United States has given Israel in its struggles for existence. Critics of current policies argue, in essence, that support of Israel:

- a) adversely affects relations with the Arab nations, which is undesirable because of that bloc's oil resources and growing economic wealth;
- b) increases the likelihood of a reimposition of the oil embargo, which would have a very negative effect on the American economy;
- c) provides opportunities for increasing Soviet influence in the area;
- d) carries the risk of a superpower conflict in the region;
- e) is dangerously weakening American military strength.

While these arguments have elements of truth in them, they do not appear sufficient to justify any sharp change in American foreign policy. For it is rare for any major plank in American foreign policy to be an unalloyed blessing, pleasing all nations. In addition to the shortcomings of current policies and the benefits of proposed alternatives, one must also consider the benefits of current policies and what negative developments are likely to result if changes are made.

In particular, diminished support for Israel:

- a) would have adverse international implications in many areas of the world;
- b) is not likely to have a significant impact on American energy problems;

- c) will not guarantee harmonious relations with all the Arab nations;
- d) could, under some scenarios, be a spur to war in the region;
- e) may possibly lead to nuclear proliferation, in the Middle East and elsewhere;
- f) would certainly have undesirable domestic consequences.

To discuss these points in order, one should note that except for longstanding obligations to NATO, Japan and perhaps Taiwan, few aspects of American policy have been as firm and longlasting as the commitment to support the existence of Israel. Presidents of vastly different political perspectives have all made support of Israel an important element of American foreign policy. For the United States to suddenly weaken its commitment, not because of any change in Israel or the United States, but in essence because of external pressure and economic threats from Arab nation, would raise questions about the value and certainty of an alliance with the United States in many parts of the world.

In particular, the Middle East may suddenly become a new "soft underbelly" of Western Europe. Any signs of increased Soviet influence in the area would create qualms in Western Europe. If, after all, the United States could, in essence, be forced by threats of oil embargoes to cut Israel adrift, why could they not just as easily be dissuaded from aiding Western Europe by a similar threat? And would Jordan believe the United States would come to its aid, if faced with PLO aggression, when the United States had not aided Israel?

Nor should one believe that a change in policy would raise American influence in Arab circles to such a point that renewed Russian infiltration is impossible. What is striking when one goes down the list of

nations in the area is that the only firm friend of the United States is Israel!

While some countries, such as Saudi Arabia and Jordan, are now "pro-Western," the political perspective of each of them could (literally) change overnight. King Faisal now seems secure on his throne, but it is hard to know what political forces are seething below the surface. As Faisal increases his armed forces to protect his regime from external threats, he may be creating an internal threat of even greater consequence. Who knows what Saudi Arabian Khaddafi is now a frustrated major or colonel?

The Shah of Iran is another pro-Western monarch, but he is already past 50. At any moment he could be felled by a heart attack. Whether his son would be able to rule effectively in his stead, and with what political perspective, is not clear.

King Hussein of Jordan is another American ally, but he has already survived numerous assassination attempts. Who knows how long his good fortune will continue? Moreover, the originators of some of the attempts, the PLO, would be ensconced in their own state. It is not unlikely to see them renew attempts to incorporate Jordan into "Greater Palestine."

Nor should one forget that the PLO, despite noble rhetoric about a "secular democratic state," has received significant Soviet aid in the past. Creation of a PLO state either together with or in place of Israel would see creation for a new base for Soviet intrigue.

Iraq and Syria seem firmly in the Soviet camp. No reversal of American policy is likely to change the extreme left-wing orientation of those regimes. As to the extent Egypt would show its appreciation to the United States for its changed policy, inquiries might be made to Moscow. Unless

the United States intends to make continued commitments to support whatever economic or political goal is uppermost in Egyptian eyes, the benefits of a reversed foreign policy are likely to be shortlived.

In Israel, however, there is no political change remotely foreseeable which would change the pro-Western outlook of the country. Diminishing support for Israel would risk replacement of America's only firm friend in the Middle East by a state having strong ties to the Soviet Union. This seems a dubious way of increasing American influence and decreasing Russian influence in the area.

While support for Israel clearly does not win friends and influence people in Arab circles, it is far from clear how great an adverse effect this has on America's energy problems. The major concerns of the United States vis-a-vis the energy situation are price and availability of energy supplies. Let us examine how the existence of Israel affects each of these factors.

Despite vaguely worded promises by some Arab spokesmen, there seems little reason to believe that even the total disappearance of Israel would result in a significant reduction in the price of oil. Many members of OPEC are non-Arab countries, such as Iran and Indonesia, who are more concerned with retaining high prices than in regaining Arab Jerusalem.

Conceivably, of course, the Arab members of OPEC could force a price cut by "flooding the market" (both figuratively and literally) with oil. But the Arabs realize quite well that without the unity of OPEC they might easily lose control over oil prices, which would threaten the political influence they now wield. Clear evidence that the Arabs will not jeopardize the unity of OPEC out of "gratitude" to the United States

is the decision by Saudi Arabia to renege on a promise to the U.S. that it would auction its surplus oil, driving down the price of oil, when other OPEC members objected.

Conceivably, in the framework of an agreed OPEC price reduction, one might expect, perhaps, a 10% drop, from \$10 to \$9 a barrel of oil. Needless to say, while any price reduction would be welcome, a 10% reduction would not significantly ease worldwide economic problems originating from high oil prices.

Some studies done at the Hudson Institute have indicated that Saudi Arabia could, on its own, force the price down while earning even more revenue, making up on volume what it loses on price per barrel. Whatever econometric models may show, such a development seems politically dubious. Following years of being "exploited" by Western nations and their oil companies, no Third World nation is likely to export vast amounts of oil at "cheap" prices, regardless of rationale.

Finally, with regard to price, it seems clear that OPEC will lower its prices only with reluctance; only after strong market (and perhaps political) pressures. For the U.S. to change policies because of the "oil weapon" would be interpreted as a sign of weakness. As such, it is likely to be counterproductive to any campaign to convince OPEC to lower prices.

With regard to availability of oil, it seems clear that another embargo is a distinct possibility in the event of another Middle East war. But it is far from a certainty.

In many ways an embargo would be more difficult to institute now than in 1973. First, Arab nations have invested large amounts of their excess

earnings in Western nations, especially in the United States. A renewed embargo could see the loss of some, if indeed not all, of that investment.

Second, whereas in 1973 the main Arab problem was increasing production to meet the demands of the Western consumer nations, currently OPEC nations face the problem of reducing production in order to keep prices high. This has a number of consequences. There is large spare production capacity in non-Arab OPEC nations, which could be used to fill demand from embargoed nations. The price of oil could not again be quadrupled to offset revenue losses from the embargo. And at least some Arab states may be in a position where revenue will be needed. Libya, for example, recently renewed oil shipment to the United States for this reason. (And a war, of course, would be expensive to finance.)

Finally, in many ways the Western nations are more prepared to face an embargo. Reserve stocks of oil have been increased. Emergency mechanisms for distributing reduced amounts of oil are in existence. Perhaps most important, the military problems of regaining by force what was denied by politics have no doubt been extensively analyzed in various Western nations.

One should not forget that the 1973 embargo did not occur with the onset of fighting, but only later, after the United States committed \$2.2 billion to Israel. One would expect institution of another embargo to be made at least as reluctantly.

While discussing disruption of oil imports to the United States, it should be pointed out that an embargo is not the only way in which disruption might occur. A feverish arms race is now going on in the Persian Gulf area. There are a number of border disputes. In particular, Iran and Iraq have had repeated border skirmishes. War between these nations

could dramatically disrupt oil exports from the region. In particular, important Iranian oil fields lie dangerously near the border between them.

In a sense, Israel serves as a lightning rod, focusing Arab attentions on that part of the Middle East rather than on the Persian Gulf. One should not forget that the Egyptian adventure in Yemen was not ended until the fiasco of the Six-Day war. Similarly, until 1967, there were grave doubts as to the stability of the Saudi Arabian government.

The previous discussion in many ways explains the third point, that adopting a more pro-Arab policy would not guarantee harmonious relations with Arab nations. The Middle East is an area rent with many disputes and conflicting political ambitions. If and when the Israeli issue is resolved, one can assume the United States to be forced to "take sides" in these conflicts.

It is often stated that if Israel did not exist, then the Soviet Union would have to create her. The argument being that only the Arab-Israeli issue provides an opening for Soviet influence in the area. It often goes unnoticed, however, that the Soviet Union has shown itself capable of creating other "Israel" type issues elsewhere in the world. The growth of Russian influence in India, for example, is not due to U.S. support of Israel. Even in Egypt, the Russian "breakthrough"--the arms deal of 1955--stemmed from Nasser's displeasure with other American policies.

Nor should one discount internal political factors leading to governments not particularly "pro-American." If Egyptian economic woes continue to mount, Sadat could well be forced out of office, for example. Whether

a successor would be as admiring of American Secretaries of State is not clear. Possible developments in Iran and Saudi Arabia have been discussed above.

Adoption by the United States of an "evenhanded" policy, far from reducing chances for renewed conflict, would most likely increase them. Unless matched by Russian evenhandedness, hardly a likely prospect, such a move would only harden Arab political demands and give them renewed hope for military conquest of Israel. The most probable end result would be a massing of Arab forces together with a political ultimatum to Israel. While conceivably, given the unfavorable political outlook, Israel might acquiesce, the more likely result would be renewed hostilities.

The outcome of such a conflict is hard to predict. Israel today seems still superior to the combined prowess of its Arab antagonists. What the situation might be in a year or two, especially if Russian supply efforts were not matched by the United States, is more uncertain.

If the tide of battle did seem to be turning against Israel, there would be strong pressures on the United States to come to Israel's aid. One can hardly conceive of a less desirable development than the United States entering the fray on the side of an ally weakening before a military assault. (See Korea.) The cost in lives would be great. The likelihood of some Russian response, perhaps even sending "volunteers" to the region, could not be discounted. An oil embargo becomes almost a certainty.

If the United States did not come to Israel's aid, the situation would not be much better. Defeat of Israel would be interpreted as a defeat for the West. Russian prestige would be immense, for it would have been Russian military equipment which had gained victory, while Russian

strategic might would have, in part, deterred American intervention. How long Hussein's regime would survive, at least in its current pro-U.S. posture, is far from clear.

The most likely alternative to such a scenario is also far from attractive. With the conventional balance seemingly shifting against them, Israel might well decide to deploy nuclear weapons. Despite various newspaper columnists' reports about Israel possessing nuclear weapons, small countries possessing marked conventional superiority over their enemies do not need nuclear weapons.

If, however, the conventional margin of superiority began to seem to diminish, or even threaten to be lost completely, deploying nuclear weapons would make much strategic sense. It would serve not only to deter conventional attack, but to delay any attack for many months, if not years, until the Arabs themselves obtained similar weapons.

While the situation might appear at least as grim for Israel in a nuclear Middle East, considerable time would have been gained, and who knows what political changes might occur in the interim?

Needless to say, Israeli nuclear weapons would inevitably be matched by Arab nuclear weapons. They could either be furnished by the Soviet Union or, if that source was unavailable, independently developed. (With their huge oil revenues, the cost would be bearable.) What the consequences of nuclear proliferation in the Middle East might be are far from clear, but it does not seem a desirable development from an American perspective.

Perhaps the most dangerous aspect would be that even if the Arab-Israeli issue were somehow resolved, nuclear weapons would remain in the

area, capable of being used in any number of crises. Oil production could be significantly disrupted if important oil fields were subject to nuclear attack.

One can also expect that other nations around the world will draw the conclusion that nuclear weapons, or at the very least a "bomb-in-the-basement" program, is an important part of national security. Surely many nations will conclude that General deGaulle was correct in developing the force de frappe.

Finally, sharply modifying American support of Israel is likely to have undesirable domestic consequences. Support for Israel is widespread not only among the nation's Jewish population, but in other segments of the population as well. There will undoubtedly be vigorous protests in the wake of any sharp change in current policy. One can even anticipate acts of violence by the "lunatic fringe" Jewish extremists. In response to the protests, especially if accompanied by violence, one can expect reappearance of anti-Semitic campaigns and significant domestic unrest.

While excesses on a par with those in Nazi Germany seem unlikely, the recent flap over statements by General Brown will probably seem mild by comparison. This is especially true since historically anti-Semitism increases during economic downturns. Considering the significant contribution made to the United States by its Jewish citizens, there seems little doubt that the nation will suffer.

Up to this point, the main focus of attention has been on negative consequences of a change in current policy of support for Israel. Let us now examine some of the positive benefits to the United States of continued support of Israel.

One might begin by noting that in the past the United States has benefited greatly from Israel. Closure of the Suez Canal made Soviet supply of North Vietnam expensive, and may easily have helped save hundreds of American lives.

Israeli capture of important Soviet weapons systems has allowed the U.S. to gain priceless information about these weapons. Moreover, the combat experiences gained in the 1967 and 1973 wars have provided the United States and its NATO allies with very useful "lessons," obtained without the loss of a single American life.

The Israeli armed forces have also vividly demonstrated the capabilities of Western--especially American--military technology. As such, sales of military equipment to other nations have been aided.

Israel has also weakened, at least to some extent, the Soviet Union by providing a haven for Soviet Jews, siphoning off a not entirely insignificant number of Russian citizens having very useful talents. The ability of Soviet Jews to emigrate to Israel has also encouraged Jews and other ethnic groups to apply for emigration to other countries.

One might argue, of course, that Jewish emigration has been a sore point in the search for detente with the Soviet Union. One should note that demands for the right of Jews to emigrate to Israel started before detente became a key element of U.S. foreign policy. In addition, the entire Middle East situation has provided a testing ground for detente. (How well detente passed that test in October 1973 is a matter of some controversy.)

In this era of realpolitik, it may seem irrelevant to comment upon the fact that Israel remains one of the two democratic states in the Middle

East (Lebanon being the other). For the U.S. to desert one of the few thriving democracies is not likely to motivate others to adopt that form of government. While the U.S. has often supported somewhat less than totally democratic states, often on the basis of the "lesser evil," it would seem to many a betrayal of the principles this nation supposedly adheres to if it were to abandon one of the few states outside of Western Europe that practices what the United States preaches.

Previously, it was noted that a weakening of the American commitment to Israel could lead to renewed hostilities. Conversely, strong military support to Israel could help prevent another outbreak of fighting.

As long as Israel seems able to defeat its Arab foes, arguments in Arab circles for new fighting are likely to be subdued. Of course, as events in October 1973 clearly demonstrate, perceived Israeli military superiority is no guarantee that the Arab nations will not resort to arms.

But, even if war does occur, large-scale shipments of military supplies to Israel before hostilities is in the best interests of the United States. Clearly, the U.S. policy goal is to see any hostilities brought to a close as soon as possible. If the Arabs were to achieve rapid military gains, however, the likelihood of a quick ceasefire is small. As noted above, a more likely consequence would be Arab attacks aimed at destroying Israel and strong pressure on the United States to intervene in the conflict under very unfavorable conditions.

Only a speedy Israeli victory seems likely to create conditions conducive to an early end of the fighting. Thus, heavy shipments of supplies to Israel now, before any fighting, is desirable.

Even if the conflict does become protracted (by Middle East standards), it is desirable, from a U.S. perspective, for as much military equipment as possible to be in Israeli hands before hostilities ensue.

Just as in 1973, to minimize adverse reactions in Arab countries, it is desirable for the United States to play as small an active role in supplying Israel during hostilities as possible. The more equipment on the scene, the less active involvement necessary after fighting breaks out. Moreover, after the recent changes in the government of Portugal, resupply efforts may be more difficult than in 1973.

These last few paragraphs, in a sense, are a reply to those who warn that military shipments to Israel have gravely weakened American military strength. The goal of the United States is not to win wars, but to deter them from occurring or to minimize adverse consequences to the United States if they do occur. By decreasing the likelihood of war, increasing prospects for a speedy termination of hostilities and minimizing over involvement of the United States in any fighting, military aid to Israel seems fully in the American national interest.

One can argue, to be sure, that such support only increases Israeli intransigence over political concessions and increases the likelihood of a preemptive Israeli military attack. With regard to the latter, unless Arab forces seemed particularly menacing--such as occurred in 1967--there seems no motivation for Israel to launch such a strike. If the Arab nations were indeed girding for battle, there seems no reason why the United States would prefer a 1973-type scenario over a 1967-type scenario.

To discuss the former point in the depth that it is worthy of is beyond the scope of this paper. Crucial to this argument is the perception that it is Israeli insistence on perfect security rather than Arab insistence on the replacement of Israel by an Arab state which is the primary stumbling block to peace in the area. This analyst would argue that at

least some important segments of the Arab political scene, such as the PLO, have not renounced their desire for the elimination of Israel, and that this is the key issue preventing peace.

While support for the existence of Israel obviously exacerbates relations with the Arab states, paradoxically perhaps, it also in many ways increases the importance and prestige of the United States in Arab eyes as well. It is far from a coincidence that President Nixon received a tumultuous reception in Cairo within a few months after the United States had saved Israel from a disastrous military defeat. By again demonstrating its resolve to preserve the existence of Israel, it became clear to at least some Arab states that their political goals could be achieved only through American acquiescence. If the United States were to retreat from its commitment under threat of an Arab oil embargo, respect for and concern for good relations with the United States could easily diminish.

In this regard one must emphasize again, as noted in the beginning of this paper, that Israel is a part of the West, sharing a common culture and heritage with the United States. As part of the West, Israel has contributed as well as taken: its scientists have made discoveries in many areas; its armed forces contribute in a small, but not insignificant manner, to the military strength of the Western world. If Israel were defeated and destroyed, a part of the Western developed world will be lost. The shock waves from any such defeat would be felt not only in the Middle East but around the world, and in a manner not favorable to the United States.

To summarize, then, sharp changes in American support for the existence of Israel would have adverse international repercussions. Other

nations allied with the United States would begin to reexamine the value of its alliance. Pressures for development and deployment of nuclear weapons would rise in Israel, leading to nuclear proliferation in the Middle East and other areas of the world as well.

If the United States were merely to reduce, but not abandon, its commitment to Israel, the end result could easily be an increased likelihood of war, with the possibility that the armed forces of the United States might be forced to intervene on unfavorable military terms.

Many of these trends would be accentuated if the United States were to shift to a strong pro-Arab position. Especially under these circumstances, adverse domestic repercussions could be anticipated. Significant spread of anti-Semitism and civil unrest would adversely affect American life at home.

Moreover, the supposed benefits of such a change seem less than might be imagined. The effect on the price of oil will most likely be negligible. While an embargo is a distinct possibility in the event of a war, it is far from a certainty. The diplomatic gains to be made in Arab nations by such a change are likely to be shortlived. The Soviet Union has a firm base of operations in the Middle East in countries like Iraq and Syria. Creation of a Palestinian PLO government would create another pro-Soviet country in the area.

Finally, existence of Israel has benefited the United States in many ways. It has weakened the Soviet Union in some respects and hindered their resupply efforts in North Vietnam. Its scientists have contributed to the world of knowledge. Perhaps most important, Israel is perhaps the strongest, certainly the firmest friend of the United States in the strategic-

significant area of the Middle East. To replace a tried and true friend like Israel for the uncertain favors of Arab states could be the worst case of "new lamps for old" since Aladdin.

IRAQ AS A SOVIET PROXY ON THE PERSIAN GULF:
THE NEXT DECADE

By
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A. Underlying Projections

Any analysis of future developments must be based on a set of projections relating to the principal variables underlying the analyzed subject. It is felt that making explicit at the outset the basic projections affecting the present study would provide the necessary framework for it.

The following projections underlie the central issues analyzed in this paper; a drastic change in any of them would necessitate a revision of its conclusions.

1. The basic internal and external posture of the Soviet regime will remain unchanged.

2. The U. S. and the major West European states will remain NATO members with essentially unchanged internal systems.

3. The U. S. and the USSR will continue to be the undisputed superpowers; China will lag behind, and will not become a major factor in the Middle East during the period under review.

4. The underlying global rivalry between the USSR and the U. S. will continue, whether in the framework of an open cold war or of a limited détente.

5. The availability of Middle Eastern oil will continue to be a vital economic interest of the West.
6. Iran and Saudi Arabia will remain in the Western camp.
7. Iraq will persist in its pro-Soviet policy (this projection will be analyzed).

Not all of these projections carry the same weight. It would be quite ludicrous to compare the stability of the Soviet regime with that of countries like Saudi Arabia and Iraq. It should be recalled, however, that all seven projections foresee the continuation of processes or factors going back 16-30 years, and that none of them has yet undergone known developments in the opposite direction which are significant enough to warrant a forecast of a drastic change in it during the next decade.

B. Background: Iraq's Regime and Economy

Since July 1968 Iraq has been ruled by the Ba'ath party through a Revolutionary Command Council (RCC), which, under the Provisional Constitution of July 1970, is responsible for the election of the President, promulgates the laws, and oversees the command of the armed forces. Under a constitutional amendment enacted in July 1973, the RCC has transferred the power to appoint and dismiss all ministers and officials to the President of the Republic, who is also the President of RCC. Field Marshal Ahmad Hasan al-Bakr, head of the military wing of

the Ba'ath party who led the July 1968 coup d'état, has been President, Prime Minister, and Commander-in-Chief of the Armed Forces since the coup; Saddam Husain Takriti, head of the civilian wing of the Ba'ath, has been Vice-President and was considered until July 1973 the strongman of the Iraqi regime. Despite the chronic strains in the relations between the two wings of the ruling Ba'ath party, they have been able to maintain a working relationship, at the absence of which the regime would have doubtless collapsed. The ruling stratum of Iraq consists of 2-3,000 army officers and civilian party officials of the Ba'ath.

Ever since 1968, the Ba'ath regime has been trying to enlarge its narrow base of political support. However, rather than making moves toward real participation of the masses in the government, the regime has initiated contacts only with other recognized political organizations, notably the Kurdish Democratic Party (KDP) and the Iraq Communist Party (ICP).

The Kurds, constituting between 20 and 25% of Iraq's 10 million inhabitants and concentrated in the northern area of the country, known as Kurdistan, bordering Iran and Turkey, were in a state of rebellion--on and off--against the Iraqi government between 1961 and 1970. Led by Mustafa Barzani, President of KDP, they demanded autonomy and a larger share in Iraq's government and resources. In March 1970 the present regime finally reached a peace settlement with KDP, granting the Kurds autonomy in Kurdistan and promising full Kurdish parti-

cipation in the government. The hitch was that the area to be granted Kurdish autonomy was to be determined according to the existence of a Kurdish majority as verified in a census --which the Iraqi government steadfastly refused to conduct. The reason was its fear that a census would prove Kirkuk--Iraq's principal oil region--to have a Kurdish majority. Nevertheless, the government granted the Kurds some of the concessions promised, including the recognition of Kurdish as an official language; several Kurds were also brought into the government. Even this limited cooperation with the Kurds collapsed in March 1974, when Barzani rejected a new Iraqi autonomy plan for the Kurds presented in the form of a 15-day ultimatum. The war between the Kurds and the Iraqi army has resumed, although up till now on a limited scale.

In addition to an estimated 2,000 regular members, ICP is thought to have 10-20,000 sympathizers. These numbers are sufficient to make ICP a formidable political force in Iraq. Despite the bitter legacy of a massacre of numerous ICP members by the Ba'th regime in 1963, the return of the Ba'th to power in July 1968 was followed by a rapprochement between the two groups. After many ups and downs, an accord was finally announced in July 1973 on the declaration of a National Action Charter. The accord resulted in granting four ministerial posts to ICP members, as well as in the release from jail of several Communists. No real power was, however, given to ICP, none of whose members was admitted to the RCC.

In assessing the political power and the survivability of the present Ba'th regime in Iraq, it should be noted that so far it has demonstrated a greater resiliency than any of its predecessors since the fall of the monarchy in 1958. The ten years preceding the rise to power of the Ba'th were punctuated by two successful coups d'état which eliminated the Qasim regime after four and a half years in power and the first Ba'th regime after only nine months; the July 1968 coup itself finished off the Aref regime after four and a half years. In contrast, the present regime is completing its sixth year in power without showing any pronounced signs of weakness. It weathered successfully an abortive coup in June 1973, and there is general belief that all potential opposition has been eliminated. Iraq is expected to remain a harsh military dictatorship, with the Ba'th party holding exclusive power; cooperation with the KDP has collapsed and is not likely to resume in the foreseeable future, while Communists will probably continue to be co-opted into the government as an insurance against subversive activities on their part but not be given real power. The neutralization of the ICP, the only nation-wide civilian group powerful enough to challenge the regime, will most likely assure the continued survival of the Ba'th as long as it maintains its control over the army. The only foreseeable cause for the loss of this control is a humiliating defeat by the Kurds--an unlikely eventuality in view of the constantly swelling flow of sophisti-

cated arms generated by the gushing oil money. Another possible cause for the collapse of the present regime would be a fratricidal struggle between the military and civilian wings of the Ba'ath, but this is also unlikely: the two wings have learned to prevent the strains in their relations from getting out of hand in order to assure their survival. As will be shown later, even if the present regime does fall, its successor is not expected to effect radical changes in Iraq's foreign policy.

One of the factors enhancing the survivability of the Ba'ath regime is the greatly improved economic situation of the country. In 1973, the running feud between the Iraqi government and the Iraq Oil Company (IPC), which had held down oil production for twelve years, was at last resolved; during the same year the new fields of North Rumaila and Basra began producing substantial quantities of oil, and oil prices skyrocketed toward the end of the year. As a result, the oil income of the Iraqi government jumped from \$584 million in 1972 to \$1.67 billion in 1973; it is expected to reach a prodigious \$6.4 billion in 1974, and if the current oil prices hold up, it may rise up to \$11 billion in 1980 and \$23 billion in 1985. On the basis of the growing oil income, the Iraqi government has embarked on an ambitious program of industrial expansion, which is likely to go forward smoothly due to the eagerness of Western companies to carry it out. Unlike most other Arab oil producers, Iraq has also an enormous agricultural potential: about half of its 170,000 square miles has a potential for agricultural productivity.

of which only 25% are currently utilized. So far agriculture has been neglected and mismanaged, but there are signs that the government has recently begun paying more attention to it.

The Iraqi government has been exercising tight control over the economy through powerful autonomous and semi-autonomous organizations, which have been allocated special budgets and control most of the major commercial, banking, and insurance activities. It is likely that with the help of these organizations, the government will be able to channel a part of the unprecedented income generated from oil exports to buy off any potential opposition.

To sum up, it seems that by avoiding disastrous inner strife, by neutralizing the opposition, by assuring the support of the army, and by controlling and manipulating the booming economy, the Ba'ath regime of Iraq has been able to overcome the weakness inherent in its narrow base of support and emerge as one of the sturdiest regimes in the Arab world, with good prospects of survival.

Soviet-Iraqi relations will be analyzed in four different contexts. 1. Bilateral relations; 2. The context of the Middle East and the Arab-Israeli conflict; 3. The context of Soviet preoccupation with the security of its southern borders; and 4. The context of the Persian Gulf and the Indian Ocean. The fourth context will constitute the main emphasis and thrust of this paper.

C. Bilateral Relations

In purely bilateral terms, Iraq has only recently become really important to the Soviet leaders. Her newly gained importance may be summed up in one word: oil.

At first glance, the USSR's oil posture is far better than that of almost all other industrialized countries. Its proven oil reserves, estimated in 1973 at 80 billion bbl. (Oil and Gas Journal, December 31, 1973), are sufficient to meet Soviet oil needs (at current levels) for the next 35 years. This bright picture is, however, marred by four principal factors.

1. At present, only 12% or so of the USSR's potential energy resources are located in the main demand area (European USSR and the Urals), which accounts for 75% of the country's population and 80% of its industry. As a result of the constant drying up of the oil reserves in the demand area, most of the Soviet oil reserves are now located in Siberia, whose woefully underdeveloped infrastructure and exceedingly harsh climatic and physical conditions make their exploitation an almost prohibitively expensive proposition.
2. Since the mid-1960's, the entry of the USSR into the automobile era has caused a sharp increase in domestic oil consumption. Under the 1970 five-year plan, the production of automobiles is to increase 270%. If, as expected, automobile production is to continue to expand, Soviet oil consumption in 1980 will be over 65% higher than it was in 1973, and much higher still in 1985.

3. Diminishing oil production has made the East European countries increasingly dependent on oil imports from the USSR. In 1973, the Soviets were forced to export over 16% of their total oil production to East Europe, a percentage which is likely to increase even further.

4. The Soviet decision in the 1960's to import Western technology and equipment on a vast scale has required huge amounts of hard currency, and will require even more in the future. In order to obtain this currency, the USSR has had to export additional quantities of oil to the West. In 1973, almost 12% of Russia's oil production went to Western countries, accounting for over 30% of the Soviet Union's earnings in hard currency. Soviet oil exports to the West are also expected to increase during the next decade.

As a result of these factors, Soviet oil production has not been able to satisfy the growing domestic demand. Oil deficits have been occurring since 1965, and they are likely to continue to grow until the Siberian oilfields are fully exploited--which is not expected to happen in the foreseeable future.

The Soviet answer to this problem has been to begin importing Middle Eastern oil--wherever possible without paying for it in hard currency--and to encourage the East European countries to do the same in order to reduce their imports from the USSR which do not earn any hard currency from the Soviets. As a result, in 1973 Soviet Bloc oil imports from the Arab

countries rose dramatically to 400,000 b/d (including 100,00 b/d by the USSR); they are expected to increase to as much as two million b/d by 1980.

Among the Arab oil producers, Iraq has played the biggest role in beginning to help ease the Soviet oil deficit. Soviet-Iraqi oil cooperation began in July 1969, when the USSR and Iraq signed an agreement providing for Soviet financial and technical aid worth \$68 million to develop the North Rumaila oilfield, to be repaid by crude oil shipments. This agreement resulted from a convergence between the Soviet interest in creating new sources of oil supplies not requiring payments in hard currency and the Iraqi interest in receiving foreign cooperation with its nascent Iraq National Oil Company (INOC) for the development of the rich North Rumaila field, discovered by IPC but expropriated by Iraq in December 1961, at a time of bitter conflict with the Western oil companies. Under a new protocol signed in Moscow in August 1971, it was agreed, among other things, to proceed with the second stage of the North Rumaila field in order to achieve the production of 360,000 b/d. Iraqi crude deliveries to the USSR were to be increased from 20,000 b/d in 1972 to 40,000 b/d in 1973-75. The potential crude production of the North Rumaila field is estimated at as much as 800,000 b/d, and its potential importance for the USSR has not been lost on the Soviets. In April 1972 Premier Kosygin was present at the ceremony marking the beginning of production of the field. Two months later, a leading Soviet journal hailed the North Rumaila

field as being "among the ten richest oilfields in the world" (International Affairs, Moscow, June 1972, p. 66). It is quite likely that the USSR will steadily increase its oil imports from North Rumaila and other Iraqi fields during the next ten years.

In addition to oil cooperation with the USSR itself, Iraq has also signed, since 1971, agreements providing for oil shipments in payment for aid in oil exploration and exploitation with East Germany, Romania, and Hungary. These deals have also been intended primarily to ease the burden of Soviet oil exports to East Europe. The year 1973, which saw a jump in Iraqi crude production from 1.455 million b/d to 2.1 million b/d was also the first year in which East Europe imported significant quantities of Iraqi oil, amounting to 160,000 b/d. This quantity is expected to increase steadily, simultaneously with progressively intensifying Soviet Bloc cooperation in Iraqi oil exploration and exploitation.

It is thus clear that Iraq has begun to play a major role in the USSR's quest to ease its oil deficit, and will most likely continue to do so over the next ten years. Proven oil reserves in Iraq are estimated at 32 billion bbl., putting it fourth in the Middle East after Saudi Arabia, Kuwait, and Iran. According to H.I. estimates, Iraq will produce four million b/d in 1980 and six million b/d in 1985 (Senate estimates are even higher: 4.4 million and nine million b/d, respectively). These data should suffice to show that even on a bilateral basis alone,

Iraq has become a country of great importance for the USSR. It has been, and is likely to remain, the largest crude oil source of the Soviet Bloc in the world.

D. The Middle East and the Arab-Israeli Conflict

Iraq's geographical location makes it a relatively marginal country as far as the Soviet interest in the Eastern Mediterranean region is concerned. The 180 miles or so separating Iraq from the Israeli border and slightly more from the Mediterranean coast make it much less interesting in this context to the Soviets than Egypt or Syria, both of which border both Israel and the Mediterranean and have larger armies than Iraq's, or even than Libya--a newly acquired friend of the USSR --with its long Mediterranean shoreline (See map in Appendix I-1). Iraq cannot provide the Soviets with naval bases or facilities on the Mediterranean; it has no power over the crucial Suez Canal (expected to be reopened within a year); and it cannot bear the brunt of the fight against Israel.

This is not to say, however, that Iraq has had no impact on events occurring in the Middle East. Its army has participated in force in every one of the three major wars between Israel and the Arab states (in 1948, 1967, and 1973), and, alone among them, Iraq has never signed an armistice agreement or a cease fire with Israel. In other words, among the major combatants, Iraq is doubtless the most radical in its position vis-à-vis Israel. This radical stand, which has coincided with

the basic Soviet interest of keeping the Arab-Israeli conflict simmering as a means of gaining influence in the Arab world, has been brought to bear upon Israel's neighbors during the meetings of the Arab leaders, in which Iraq has always had a strong voice. Iraq has also been able to influence her neighbors Syria and Jordan through the presence of Iraqi contingents on their territories. It may be expected that the astronomical increases in Iraq's oil income will enable her to strengthen her armed forces at a faster pace than relatively oil poor Syria and Jordan, and her power of intimidation over her western neighbors would grow accordingly.

The USSR formalized its recognition of Iraq's role in the Arab-Israeli conflict in the Soviet-Iraqi Treaty of Friendship and Cooperation, signed on April 9, 1972 (for the text, see Appendix III), which stated (Article 4), "They (the USSR and Iraq) will continue to wage an unrelenting struggle against imperialism and Zionism." Statements to the same effect have abounded in the past, and will doubtless be made in the future. At the same time, it is certain that the USSR will continue to regard Iraq as a secondary power vis-à-vis the East Mediterranean basin, unless the unlikely following scenario takes place: Iraq pours a very large percentage of its oil income into a huge expansion of its army; the Iraqi government decides to disengage itself from the problem of the Kurds, from the struggle with Iran, and from the Persian Gulf area in order to concentrate on the fight against Israel; it throws a sizable part of its armed forces into the

battle with Israel through Jordan or Syria, possibly against their objections. As long as this improbable scenario does not occur, Egypt and Syria will remain the mainstays of Soviet policy in the Eastern Mediterranean (growing US influence in them notwithstanding).

E. Security of the Southern Soviet Borders

The issue of the security of the southern borders of the USSR is that which originally drew Soviet attention to Iraq. In February 1955 Iraq (then still a kingdom) concluded a defense alliance with Turkey; Britain joined in April, Pakistan in September, and Iran in October. The Baghdad Pact was thus complete, with the US as an observer. Although officially defensive, the formation of a Western military alliance on the southern borders of the USSR (See map in Appendix I-1) caused great anxieties among the Soviet leaders, who viewed it as an "aggressive pact" and conducted a massive propaganda campaign against it.

The fall of the Iraqi monarchy in July 1958 and the almost immediate withdrawal of Iraq from the Baghdad Pact by the new radical leadership provided Moscow with the opportunity of undermining the Pact, renamed Central Treaty Organization (CENTO) in March 1959, through the establishment of Soviet presence in Iraq by way of military and economic aid: Egypt and Syria having already joined the pro-Soviet camp, the USSR had virtually leapfrogged the "Northern Tier."

During the years 1959-1964, Iraq played a crucial role in Soviet planning as a countervailing force against the two principal CENTO members in the area, Iran and Turkey. Both states displayed a great hostility toward the USSR, and considered their participation in the Western defense system against the USSR as vital to their security. A pro-Soviet Iraq constituted a potential threat which forced their governments to divert part of their attention and military preparations toward their Arab neighbor--which served nicely the Soviet interests.

This situation changed in 1964-65, when Soviet relations with both Iran and Turkey improved dramatically. Top-level visits were exchanged between the USSR and the two CENTO members; substantial trade relations were initiated; and Iran received, in addition to economic assistance, "non-sensitive" military aid from the Soviet Union. Despite occasional strains, the "détente" between the USSR and Iran and Turkey has continued to this day. This rapprochement resulted largely from Iranian and Turkish disappointment with various aspects of Western support and from the Soviet interest in exploiting this disappointment to diminish the importance of CENTO as a Western military alliance. It has served the Soviet purpose well, and consequently the importance of Iraq as a counterbalance to CENTO has greatly diminished.

As long as the friendly relations between the USSR, Iran and Turkey are maintained, and there is no reason to believe that

the Soviet Union will act to undermine them, Iraq will have only a marginal importance for the USSR in the context of the security of its southern borders. If and when Iran and/or Turkey relapse into a policy of direct confrontation with the Soviet Union, it is certain that Iraq would immediately resume her role of exerting pressure upon those countries in order to ease theirs on the USSR. This is not, however, a very likely possibility, especially if the limited general détente between East and West is to continue.

F. The Persian Gulf and the Indian Ocean

(1) Introduction: Soviet-Iraqi Rapprochement

Ever since the collapse of the Iraqi monarchy in July 1958, the USSR has maintained good relations with Iraq and has supplied it with military and economic aid. Soviet-Iraqi friendship was especially close under General Qasim (1958-63), when at one point Moscow supported him in his struggle against President Nasser himself; but even during the rule of the Ba'ath in 1963 and that of the brothers Aref until 1968, despite occasional strains, Soviet-Iraqi relations remained good.

In 1971-72, relations between Moscow and Baghdad underwent what may be described as a transformation into a higher order of magnitude. The ground for the breakthrough was laid in a little-noticed visit of Soviet Deputy-Premier

Novikov to Baghdad in June 1971, followed immediately by a visit of a high ranking ten-member Iraqi delegation to Moscow. In February 1972 Iraq's Vice-President Saddam Husain Takriti met in Moscow with Brezhnev, Kosygin, and Podgorny in preparation for the crucial events of April 1972.

Between the 6th and 10th of April 1972, Premier Kosygin conducted an official visit to Baghdad, taking part in ceremonies marking the 25th anniversary of the Ba'ath party. On April 9, 1972, Kosygin signed a 15-year Treaty of Friendship and Cooperation with Iraq (text in Appendix III), modelled on similar treaties signed with India and Egypt in 1971. The treaty provided for regular consultations between the two governments, for immediate contacts to coordinate their positions in case of a threat of an attack on one of them, and for further development of "cooperation in the strengthening of the defense capabilities of each," thus officially elevating Iraq to the rank of one of the closest partners of the USSR outside the Soviet Bloc. The new relationship was further consolidated with the arrival of President Bakr in Moscow on an official visit in September 1972--his first visit to a foreign country, and the first visit an Iraqi Head of State had ever made to the USSR. Additional high level visits were made since that time, including a recent visit of Soviet Defense Minister Grechko in Iraq (late March 1974).

At the same time, there has been a marked improvement in the Soviet attitude toward internal developments in Iraq. Whereas prior to 1971-72 there was frequent criticism in the Soviet press of the domestic policies of Baghdad, the post-treaty period produced statements such as "The technical and economic cooperation between the USSR and Iraq helps to shape and fortify the progressive tendencies in the Iraqi economy. In particular, it helps to develop the state sector, to introduce planning principles into the economy" (International Affairs, Moscow, June 1972, p. 66). Even more strikingly, in March 1974 the Soviet media gave full support to the Iraqi government in its renewed struggle against the Kurds, something which the USSR had always avoided before in order not to offend the sensibilities of people in the Third World supporting the "national liberation movement" of the Kurds in Iraq.

What are the causes underlying this new departure? There is no doubt that the bilateral aspect of Soviet-Iraqi relations, i.e. Soviet interest in Iraq's oil, was part of it; this is attested by the presence of Kosygin at the inauguration of the North Rumaila oilfield. Soviet involvement in Iraqi oil exploitation and importation is not sufficient, however, to explain the signature of a 15-year defense treaty between the two countries.

The context of the Middle East and the Arab-Israeli conflict was also part of it. Novikov's visit to Baghdad in

June 1971 came a short time after the ouster of the pro-Soviet Sabri group in Egypt, and the process of tightening Soviet-Iraqi relations was concomitant with a decline in Soviet-Egyptian relations. Moscow has doubtless attempted to compensate for its losses in Egypt by gains in Iraq. The Soviets themselves placed the treaty in the Middle Eastern context in statements such as "The Treaty serves the purpose of uniting the progressive Arab states on an anti-imperialist basis" (International Affairs, Moscow, June 1972, p. 65). As recent developments have shown, there is an advantage, in Soviet eyes, in Iraq's not being a neighbor of Israel. The US has succeeded in converting her influence in Israel into a leverage in her relations with Egypt and Syria, both of which had lost territories to Israel and found that reliance on American diplomacy is likely to get them back more of their lost territories than the use of their Soviet-supplied arms. No such US leverage exists vis-à-vis Iraq. In addition, while Egypt, and to a lesser extent Syria, are susceptible to American offers of economic aid as an incentive for a change in foreign policy, Iraq is in no need of such aid. For these reasons, the Soviet position in Egypt and Syria is far less immune to erosion by growing American influence than it is in Iraq, which is a major reason for Moscow's eagerness to cultivate Soviet-Iraqi relations.

The context of the security of the USSR's southern borders was a far less significant factor in the recent Soviet-

Iraqi rapprochement than the two other contexts already discussed. The conclusion of the 1972 treaty was not accompanied by a noticeable deterioration in Soviet relations with Iran and Turkey, and there are no signs that the USSR intends to substitute a policy of pressure and confrontation on her two southern neighbors for that of détente with them. At most, the treaty implied an element of warning against any intention on the part of those two countries to relapse into confrontation; thus the context of the security of the USSR's southern borders was at most a potential factor in the Soviet-Iraqi rapprochement.

Although all three contexts discussed so far have contributed, to a lesser or greater extent, to the new relationship between the USSR and Iraq, they cannot be considered sufficient explanations for it. Iraq has reciprocated in it, and a full explanation will have to take her interests into consideration as well.

The Iraqi interest in Soviet military hardware and technical aid needs no elaboration. But such interest is not sufficient reason to sign a defense treaty, as other long-time recipients of Soviet aid such as Syria and Algeria have demonstrated. The underlying explanation lies elsewhere, and is based on a strategic convergence of Soviet and Iraqi interests. This brings us to the fourth context of Soviet-Iraqi relations, that of the Persian Gulf and the Indian Ocean.

(2) Iraq's Position on the Gulf

The Persian Gulf is Iraq's only outlet to the sea; as the map in Appendix I-4 shows clearly, the country's access to the Gulf is exceedingly limited and vulnerable. Its entire Gulf shoreline consists of a mud flat which precludes maritime access. As a result, Iraq had to build her ports along internal waters leading to the Gulf. Since ancient times, Iraq's principal harbor has been in Basra, located almost 100 miles up the Shatt al-Arab river (See map in Appendix I-4.) This location has the double disadvantage of requiring transit along the Iranian border almost the entire length of the journey from the Gulf to the harbor, thus rendering it strategically untenable, and excluding access to supertankers and other large vessels due to the relative shallowness of the river. A partial solution for both problems was found with the construction, several years ago, of a new port in Fao, located almost at the mouth of the Shatt (See map in Appendix I-4); Fao is somewhat less vulnerable to Iran because access to it does not require a long trip along the Iranian border, but it is close enough to it to be within easy range of Iranian artillery; it can handle larger ships than the port of Basra, but they include only medium-size tankers. Iraq's third port is Umm Qasr, situated on the inlet of Khor Zubair (See map in Appendix I-4). Its construction has solved the problem of proximity to Iran, but it is as

vulnerable to Kuwait as Basra is to Iran: ships sailing to Umm Qasr must travel in a narrow channel along the Kuwaiti islands of Bubiyan and Warba for many miles. Since Kuwait is not nearly as menacing to Iraq as is Iran, Umm Qasr has become Iraq's principal naval base. Similarly to the other Iraqi ports, it cannot accommodate large ships. There is not a single point on Iraq's territory where a port could be built which would be free from the strategic control of either Iran or Kuwait, nor is there a possibility of super-tanker access to any point in Iraq.

The growing use in the 1960's of supertankers for the transfer of Iraqi oil to Europe and to Japan required new anchoring facilities. The only solution was to go offshore. A new oil terminal named Khor al-Amaya was built 15 miles southeast of Fao, with pipeline connection to Fao. But even this facility has become inadequate. In April 1974, work was to begin on the construction of a giant offshore oil port, known as Khor al-Khafji, 27 miles southwest of Fao (to which it is also planned to be connected by pipeline); it is expected to accommodate supertankers up to 350,000 tons and handle ultimately as much as 2.4 million b/d of crude oil.

The construction of offshore oil terminals has provided a viable solution for the problem of exporting Iraqi oil via the Gulf; it has not solved Iraq's predicament resulting from the lack of a naval base not exposed to the strategic

control of Iran or Kuwait. This deficiency has prevented Iraq from becoming a naval power on the Gulf at a magnitude even remotely commensurate with her size and power. As will be shown later, this handicap is one of the keys for the understanding of Iraq's policy in the Gulf.

(3) Developments in the Gulf Since 1960

Since 1960, the area of the Persian Gulf (See map in Appendix I-3) has undergone two processes of cardinal importance: 1. A spectacular increase in the production of crude oil and an even more spectacular one in the take of the local governments from oil; and 2. The replacement of Britain by Iran as The Superpower of the Gulf.

1. The oil statistics of the Persian Gulf are staggering. Proven reserves of Persian Gulf oil rose from 150 billion bbl. in 1960 to 367 billion bbl. in 1973, representing 60% of the world's proven oil reserves. Crude oil production in the Gulf increased during the same period at an even faster rate--from 5.2 million b/d to 21.2 million b/d. The oil income of the Gulf states rose from \$1.4 billion in 1960 to \$10.8 billion in 1972 and \$18.3 billion in 1973, and is expected to reach the astronomical sum of \$67.5 billion in 1974. The undisputed leader in oil production is Saudi Arabia, currently producing 8.5 million b/d; it is followed by Iran with 6.2 million; Kuwait--2.7 million; and Abu Dhabi--1.5 million. The order of proven reserves is the same as that of production,

except that Kuwait's proven reserves are slightly higher than Iran's. The bulk of the oil produced around the Gulf is shipped to West Europe and Japan, which depend on this oil for 50-80% of their energy needs.

2. Among the countries of the Persian Gulf, only the "Big Three"--Iran, Iraq, and Saudi Arabia--were fully independent in 1960; all the others had been under British protectorate since the 19th century. In addition, the Royal Navy ruled the waves of the Gulf from its superb naval base in Bahrein. British supremacy in the Gulf region was uncontested.

The first major crack in the British protectorate system in the Gulf occurred in 1961, when Kuwait--the richest among the principalities protected by Britain--gained full independence. At the same time, Arab nationalism, fanned by Egypt's President Nasser, began making headway among the inhabitants of the British protectorates.

Toward the mid-1960's, Iran began asserting herself in the Gulf. By far the country with the largest population on the Gulf (Iran has 30 million inhabitants; Iraq has 10 million; Saudi Arabia 8.5 million; and all the others less than one million), Iran had paid relatively little attention to the Gulf before that time. Its principal preoccupation had been with the direct Soviet threat from the North, which was where Iran's defenses were concentrated. After the begin-

ning of the rapprochement with the USSR discussed earlier, Iran felt free to devote more attention to the Gulf. The importance of the Gulf for Iran increased also as a result of the jump in her oil production from one million b/d in 1960 to nearly two million b/d in 1965 (her income from oil rose from \$285 million to \$532 million), and the need to ship all this oil through the Gulf (due to the lack of international pipelines). In 1964-65, therefore, the Shah of Iran initiated a program of rapid military growth through large arms purchases in the US and Britain, with an emphasis on the formation of a modern navy.

1968 was a crucial year in the history of the Gulf. Britain announced her intention to withdraw all her forces "East of Suez," including those stationed in the Gulf, by 1971. The British government immediately began preparing the Gulf protectorates for independence. Iran, fearing the consequences of a power vacuum in the Gulf after the British withdrawal, began making vigorous preparations for the assumption of the role of the dominant power in the Gulf in 1971. The program of expanding the navy and the air force was greatly accelerated, and Iran laid a claim to the small, uninhabited islands of Abu Musa, Greater Tumb, and Lesser Tumb. The three islands, strategically located near the Strait of Hormuz, controlling the passage between the Persian Gulf and the Gulf of Oman (See map in Appendix I-1), had been under British control and were expected to go to Ras al-Khaima after its independence.

On November 29, 1971, one day before the scheduled termination of the British protectorate system in the Gulf, Iran unilaterally seized the three islands, which she has been holding ever since. By 1972, all the Gulf principalities had proclaimed their independence; Iran took steps to increase her influence in them, while simultaneously continuing to increase her military and naval superiority over all the other states of the Gulf (for Iran's military preponderance in the Gulf, see Appendix III). As a result, Iran has managed to establish paramount influence in the United Arab Emirates (UAE), comprising seven of the Gulf principalities, and has made Oman a virtual Iranian protectorate (1,500 Iranian soldiers help the Sultan of Oman fight a left-wing, South Yemen backed rebellion in the province of Dhofar; in March 1974 the Sultan made a formal declaration of alliance with Iran). All this was done with tacit Saudi Arabian approval. With her ultra-modern warships patrolling the length and the width of the Gulf, and her influence in the Gulf principalities continuously growing, Iran has clearly taken over from Britain the role of the dominant power in the Gulf area.

(4) Iraq's Interests and Goals in the Gulf

From the Iraqi viewpoint, developments could have hardly been more adverse than the emergence of the Pax Iranica in the Gulf as described above. Iran, with an 876-mile-long border with Iraq and a population three times as large, was

considered a dangerous enemy by Baghdad even before the latest expansion. For many years, Iran had been supplying military aid to the Kurds rebelling against the Iraqi government, and had contested Iraqi control over the Shatt al-Arab river, an important navigation channel for both countries comprising the border between them. Iran's unilateral action in 1969 denouncing Iraqi control over the Shatt and forcing Iraq to accept the Iranian right for free passage on it by pure military intimidation contributed to the further intensification of Iraqi resentment.

Perhaps the greatest objection of the Iraqi regime to the Iranian role in the Gulf has been ideological. Being a radical, pro-Soviet state permeated by the ideology of Arab nationalism, Iraq strenuously objects to what it regards as the increasing domination over the entire Gulf area of a "reactionary" state, serving as an "agent of American imperialism," and, above all, posing a mortal threat to the Arabhood of the Arab states located on the western shores of the "Arab Gulf." Whether, as some critics claim, the US-backed expansion of Iran's military and naval might was motivated by the Shah's desire for aggrandizement, or, as maintained by the supporters of the Shah and of the American policy of massive arms sales to his country, by legitimate self-defense needs, the consequence is the same. Iraq has been for some time, and is ever more so today, profoundly dissatisfied with the balance of power in the Gulf area and is, in this sense, a highly revisionist state.

In order to reverse the status quo in the Gulf in her favor, Iraq needs to do two things: break the preponderant naval supremacy of Iran in the Gulf, for which purpose she would first have to establish a secure naval base of her own; and radicalize the small Arab states of the Gulf by eliminating their eleven more-or-less traditional dynasts, who have been willing to welcome Iranian and Western influence. Once these goals are attained, Iraq would be able to begin realizing her aspiration for leading the Arab states of the Gulf in an anti-Iranian coalition. From the Iraqi viewpoint, it would, of course, be even more desirable to radicalize Iran herself and/or Saudi Arabia; these, however, are not realistic possibilities.

(5) Soviet Interests and Goals in the Gulf

The transformation, since 1968, of the Persian Gulf into an Iranian lake has been as much an anathema to the USSR as to Iraq. While being unconcerned about the threat to Arabhood seen by Iraq in this process, Moscow could not view with indifference the increasing hegemony of a firm ally of the West--Iran's good bilateral relations with the USSR notwithstanding--over the vital area of the Persian Gulf. The theory advocated by some experts that the USSR wants to control the Gulf in order to secure the supply of oil to the Soviet Bloc when the expected energy crunch comes seems far-fetched: it is not likely that the USSR will become really dependent on

Gulf oil in the foreseeable future, and in any case, peaceful commercial policies seem to be a safer way of assuring the flow of oil to the Soviet Bloc than strong-arm tactics; the fears that Moscow is interested in laying its hands on the oil tap of the West also seem exaggerated. But the aftermath of the October War has proved that despite previous statements to the contrary by numerous experts, the USSR does want to see disruptions in the flow of oil from the Gulf to the West; such disturbances are likely to weaken the West and further the Soviet aim of Finlandizing Europe, and would also constitute a considerable strategic disadvantage to the West in case of war. How else to interpret Soviet pronouncements such as the following Radio Moscow broadcast (12 March 1974): "...Some Arab leaders are ready to surrender in the face of American pressure and lift the oil ban before those demands are fulfilled; they are taking a chance by challenging the whole Arab world and the progressive forces of the world, which insist on the continued use of the oil weapon" (Facts on File, 1974, p. 189). Since the Soviet incitements proved quite powerless to maintain the oil disruptions, it stands to reason that the USSR is interested in creating more effective means for the achievement of this goal.

Unlike Iraq, the strategic horizons of the USSR do not end at the Persian Gulf. With all its importance, the Gulf is considered not only on its own merits, but also as a part of the much larger Indian Ocean complex (See map in Appendix I-2).

The Soviets themselves have spelled out the USSR's principal commercial and strategic interests in the Indian Ocean: "For a leading sea power like the USSR, the Indian Ocean is the only ice-free lane between its western and eastern ports. Moreover, as Soviet economic and commercial contacts with the countries of the Indian Ocean grow, carriage of cargo to them by Soviet merchant ships likewise increases. It stands to reason that the build-up of Western 'military presence' in the Indian Ocean imperils Soviet sea communications" (New Times, Moscow, March 1974, p. 5). Clearly, protection of Soviet communications in the Indian Ocean from the "threat" of the Western "military presence" there requires the presence of Soviet warships. While at the present time, due to the closure of the Suez Canal, the Soviet shipping lanes pass in the southern Indian Ocean and around the Cape of Good Hope, thousands of miles away from the Persian Gulf area, this will not be the case after the expected opening of the Canal next year: the lanes will be switched to the northern Indian Ocean and the Arabian Sea (See map in Appendix I-2), thus greatly enhancing the strategic importance of the region.

The linkage between the Persian Gulf and the Indian Ocean has recently become more significant with the beginning of construction by Iran--the superpower of the Persian Gulf--of a giant airfield-military base complex at Char Bahar on the Gulf of Oman, near the Pakistani border; the new base will be able to provide air cover for ships operating in the Arabian

Sea. It is quite likely that the USSR considers the establishment of a military base so close to its potential shipping lanes by a powerful nation backed by the West as a serious potential threat to her interests.

The foregoing analysis of the Soviet interests in the Persian Gulf and in the Indian Ocean leads to the conclusion that there is a remarkable convergence between the Soviet aims in the area and those of Iraq, discussed earlier. Both states want to challenge the supremacy of Iran in the Gulf, and since Iraq is the only local power which can hope to do that, once it has achieved a secure naval base on the Gulf, this Iraqi aim is shared by the Soviet Union. The use of such a base by the Soviet navy would further the same goal, and would therefore be welcome by Iraq. In addition, the realization of the Iraqi goal of toppling the traditional regimes of the smaller Gulf states would also help fulfill the Soviet aim of causing difficulties and disturbances to the flow of oil from the Gulf to the West.

At this point, two clarifications should be made regarding the Soviet goal of using a secure naval base in Iraq. First, it is not likely that the USSR will seek to establish a full-fledged Soviet naval base (Guantanamo-style) in Iraq. Since a major theme in Soviet propaganda beamed to the Third World has been an attack on Western military bases abroad and an emphasis on the non-existence of such Soviet bases, the construction of a naval base in Iraq would seriously undermine the Soviet stand-

ing in the Third World. Also, it is unlikely that the USSR would want to see a reinforcement of the nominal US naval force in the Gulf, homeported in Bahrein, now "fit only to pass out bubble gum to the urchins of the Persian Gulf's ports" (S. Oren), which is certain to follow the establishment of a Soviet base in Iraq. The use of Iraqi port facilities would serve Soviet purposes quite well, especially as the reopening of the Suez Canal would bring the Iraqi coast much closer to the home bases of the Soviet navy than it is now; whereas at present Soviet vessels traveling to the Gulf have to make the 11,000-mile trip from Vladivostok, they would be able to reach the area after making a 2,200-mile trip from the Black Sea homeports after the reopening of the Canal. The shorter trip would make the use of an Iraqi naval base a more viable proposition for the USSR than it is now.

Second, the opinion of some analysts that a Soviet naval facility in Iraq would be of major importance for the operations of the Soviet navy in the Indian Ocean seems untenable. In the last two or three years, the Soviet navy, which had begun continuous operations in the Indian Ocean in 1968, has acquired the use of excellent facilities on the Ocean itself. It uses two naval facilities of Southern Yemen (PDRY)--the superb port of Aden, strategically located in the vicinity of Bab al-Mandab (See map in Appendix I-1), and an anchorage on the island of Socotra; the USSR also has a long-range communications facility in Berbera, Somalia (on

the Gulf of Aden, across from the city of Aden), through which naval headquarters in Moscow can directly control movements of its warships through the Indian Ocean, as well as the use by Soviet medium-range jets of an airfield in the same town and an anchorage nearby. In addition to these facilities, the Soviet navy has an easy access to Indian ports. Each one of these facilities is preferable for the use of Soviet ships operating in the Indian Ocean to a base in Iraq, which would not only be further away but also have the access to it controlled by Iran at the Straits of Hormuz. The Indian Ocean aspect of a base in Iraq would therefore be more limited, constituting the achievement of a counterbalance to the Iranian base of Char Bahar. On the other hand, it is certain that after the opening of the Suez Canal and the expected increase in the size of the Soviet fleet in the Indian Ocean, the vessels using the Iraqi facility would be drawn from that fleet.

The convergence of Soviet and Iraqi aims in the Persian Gulf is what has made Iraq a Soviet proxy in the region. As in most other areas outside the Soviet Bloc, direct Soviet military actions, with their great potential of boomeranging politically, have been ruled out (except, perhaps, as a very last resort). The same is true of direct Soviet coercion of other states to act in ways desired by the Soviets. Soviet proxy policy toward Iraq has consisted in supporting actions committed by her in what is believed to be the furtherance of her own interests, which in fact coincide with those of the USSR.

This way it has been possible for the Soviet leaders to further their aims without paying the price of political backlash; this proxy policy fits in well with the preference for the use of Iraqi facilities over the establishment of a Soviet base in Iraq.

(6) Iraq as a Soviet Proxy 1961-1974

The Iraqi aim of achieving a naval base on the Persian Gulf free from foreign control over its access could not be realistically expected to be achieved by direct action against powerful Iran. The obvious temptation has been to do it at the expense of small, powerless Kuwait. Until 1961, British protection of that principality excluded any Iraqi action in this direction. The opportunity came with the declaration of Kuwaiti independence in June 1961. Six days later, Iraq's ruler General Qasim declared in a radio address that Kuwait was an "integral part of Iraq," basing his claim on the argument that Kuwait had been part of the province of Basra in the former Ottoman Empire and that it had been recognized by Great Britain as such both before and after the treaty of 1899 whereby Kuwait came under British protection. The USSR supported Iraq's claim to Kuwait. Its UN representative Zorin vetoed a British resolution at the Security Council to condemn Iraq's threat to Kuwait, stating that the Iraqi government "has never contemplated and is not planning any military actions with regard to the Principality of Kuwait (sic) or enforcing Iraq's right to the area (sic!) by means of arms" (KCA, p. 18188). A takeover of Kuwait by

Iraq would have not only placed the control over the access to the Umm Qasr base in the hands of Iraq and enabled her to build even bigger and better bases on the long Kuwaiti coast, but also tripled her proven oil reserves and her income from oil. With Kuwait an integral part of Iraq, Baghdad would have become a formidable challenger to Iranian supremacy in the Gulf.

The Iraqi attempt in 1961 to take Kuwait failed as a result of effective British action, and in October 1963 Iraq formally recognized the complete independence and sovereignty of Kuwait in her present borders. But this in no way meant that Iraq had abandoned her designs on Kuwait. Iraqi pressure on her small southern neighbor continued, and Kuwait was forever granting large sums to Iraq as protection money.

In early 1972, the present Iraqi regime opened secret negotiations with Kuwait for an agreement that would give her the right to establish a completely autonomous naval base on the Kuwaiti island of Bubiyan (See map in Appendix I-4). Such a base would have freed Iraq from Kuwaiti control over the access to her principal naval base. The negotiations collapsed, and in March 1973 1,500 Iraqi troops attacked a Kuwaiti police post and occupied an area around it. Iraq's foreign minister announced that his country required Kuwait to cede the islands of Bubiyan and Warba (both of which control the access to Umm Qasr), indicating that otherwise Iraq could never become a Gulf power. In effect, Iraq presented Kuwait with the option of either facing an Iraqi invasion of the whole of Kuwait or ceding

the two islands in question, in which case Iraq would abandon her larger territorial claims. The Iraqi action failed again, this time due to decisive intervention by Arab countries, especially Saudi Arabia.

Soviet concurrence in, if not support for, Iraq's action against Kuwait is attested by the exceedingly warm reception that Iraq's Vice-President Takriti received in Moscow just one day after the Iraqi invasion, and by phrases in Premier Kosygin's speech in his honor such as "Thanks to the broad concurrence of our views and aims, the Soviet Union and the Republic of Iraq are comrades-in-arms in the anti-imperialist struggle" (Pravda, March 23, 1973).

In the meantime, while Iraq has had to contend with Umm Qasr as her principal naval base, the Soviet navy has been making extensive use of it. In March 1968, barely two months after the British announcement of withdrawal from the Gulf, two Soviet warships called at that base, making it the first Soviet naval presence in the Gulf ever. Within three years, five more Soviet naval visits in Umm Qasr were made. The Iraqi base has become a regular port of call for Soviet vessels. Needless to say, the USSR would very much like to see the access to Umm Qasr made free of the strategic control of pro-Western Kuwait.

While pursuing her aim of releasing her naval base from Kuwaiti domination and allowing the Soviet navy to use this facility, all within the framework of her struggle against

Iran's hegemony in the Gulf, Iraq has also taken steps to bring about the radicalization of the small Gulf states. The preferred tool has been subversion, for which the setting in the Gulf area is ideal. There is no state in the Gulf which does not have a quarrel with at least one of its neighbors, and the UAE has internal quarrels between Abu Dhabi and Dubai on the one hand, and between those two principalities and the others constituting the UAE on the other. It would be too tedious to supply the details of all these quarrels. Very briefly, they relate to issues such as ill-defined borders, conflicting claims to the continental shelf, etc. In addition, in all those states there has been an influx of foreigners, especially Palestinians, Indians, and Pakistanis, who have added another element of instability. On top of it all, the Sultan of Oman has had a major left-wing revolt on his hands since 1965.

Iraq has extended her subversive activities to all the smaller states of the Gulf. The following are merely a sample: the creation in the summer of 1970 of a movement named National Democratic Front for the Liberation of the Arab Gulf (NDFLOAG), to supplement the PDRY-backed Popular Front for the Liberation of the Arab Gulf (PFLOAG) in the revolt against the Sultan of Oman; the establishment of Iraqi Ba'ath cells in Kuwait, Bahrain, Qatar, Abu Dhabi, and Dubai in 1971; the injection by Iraqi elements of political demands into labor riots in Muscat in September 1971; and the initiation of the abortive coup in Ras al-Khaima (UAE) conducted by Saqr ibn Sultan in January 1972.

The Soviet Union has, of course, never publicly backed the secret Iraqi subversion in the Gulf; but it has expressed its desire to see the radicalization of the Arab states of the Gulf, only two of which (Kuwait and Bahrein) maintain diplomatic relations with the USSR. One example: after a visit of a Soviet Party and Government delegation in PDRY, a joint communiqué was signed in Aden on December 7, 1972, in which the two sides supported "the struggle of the peoples of the Gulf under the leadership of PFLOAG against imperialism and aggression." The frequent Soviet pronouncements calling for the nationalization of Western oil assets in the Gulf, such as "The oil-producing countries are determined to put an end to the concessions, which are a disgraceful attribute of colonialism" (New Times, Moscow, September 1973, p. 20), may also be seen as part of the campaign designed to contribute to the radicalization of the Gulf states.

The various subversive activities conducted by Iraq against Iran herself have been excluded from the foregoing analysis. Whereas in the small states of the Gulf, Iraqi subversion has the potential of actually achieving its aims, at least in part, the activities against Iran have been and will remain no more than pinpricks. The USSR can therefore not have any great interest in them, and in any case, Soviet pronouncements of support for them would immediately bring an end to the profitable Soviet-Iranian détente. For these reasons, this issue falls into the category of Iraqi-Iranian relations proper and is not a part of the Soviet proxy policy in the Gulf.

(7) Iraq as a Soviet Proxy 1975-1985

Soviet-Iraqi cooperation is likely to continue and deepen even further over the next decade. Soviet interest in maintaining its position in Iraq will become more urgent with the expected decline of Soviet influence in Egypt and Syria, and with the consolidation of Iran's position as the virtual ruler of the Persian Gulf and the Gulf of Oman. Iraq's interest in Soviet aid will be based on the knowledge that it need not apply for Western help in stemming (not to speak of rolling back) Iranian expansion in the Gulf. As mentioned earlier, unlike Egypt and Syria oil-rich Iraq does not need US economic aid nor US diplomatic aid in recovering lost territories; Baghdad's desire to increase Western investments in the Iraqi economy, and even to purchase Western arms, does not require any change of policy, since the Western governments and companies have been stumbling over one another in their eagerness to fulfill this desire. Thus, even if the present Ba'ath regime falls (which is not likely to happen in the near future), no radical change in Iraq's foreign policy is to be expected.

The principal preoccupation of Iraq in the Gulf will continue to be the creation of a credible naval presence in it in order to challenge the Iranian supremacy. Hence, it will have to continue to strive for the establishment of a naval base on the Gulf with an access free from foreign control. The best

solution will continue to be at the expense of Kuwait, whose recent program of massive rearmament has made Iraq's task more urgent than ever; first, because the completion of this program would give teeth to Kuwait's control over the access to Qasr; second, because the Iraqi option of a lightning occupation of Kuwait would then be lost. It is therefore likely that Iraq will act against Kuwait within a year, or at most two years. Iraq would either invade Kuwait with the intention of swiftly occupying the whole country, or occupy the Kuwaiti islands of Bubiyan and Warba. In either case, the most likely scenario would be as follows: a considerable detachment of Soviet warships will be anchored in Umm Qasr in order to deter Iran from counter-attacking the Iraqi forces in Kuwait; Iraq herself will warn Iran that any armed intervention on her part would lead to the destruction of the 400,000 b/d Abadan refineries, located only a few thousand yards from the Iraqi border (See map in Appendix I-4); Saudi Arabia, which is likely to send forces to Kuwait in case the Kuwaiti army succeeds in holding off the Iraqi invasion for a few days, is not expected to intervene once the superior Iraqi army is in control of that country, or, in case of an Iraqi invasion limited to the islands, it would likewise refrain from fighting once the islands have been occupied; upon the completion of the Iraqi operation, the USSR will announce that Iraq has exercised its right over the territory she had occupied and will engage in diplomatic activities to support the Iraqi action and make it stick. It seems

that the more limited action is more likely to be attempted than the occupation of entire Kuwait, which is, however, not to be ruled out. An Iraqi takeover of the whole country would bring infinitely greater strategic and economic benefits to Iraq (and to the USSR) than the occupation of the two contested islands, but also a much harsher political backlash; it would almost certainly wreck the Soviet détente with Iran, possibly even with the US. It would doubtless be much easier to make the occupation of two obscure islands acceptable in the world than that of an entire sovereign state. In either case, Iraq is certain to construct a major naval base on occupied Kuwaiti territory and to invite the Soviet navy to make use of it. In return, Iraq would request the USSR to supply the Iraqi navy with naval hardware, especially additional missile boats, with which to challenge the Iranian superiority in the Gulf.

If, within the next two years, Iraq will not have made her move against Kuwait, her military option to do so will have been lost, as explained before. In that case, there would be only one thing the Iraqis would be able to do in order to obtain a naval base whose access to the Gulf is not directly controlled by any foreign power. That is the construction of an offshore naval base deep in the Persian Gulf. While this is technically feasible, it would be far inferior to a control-free base on Iraqi territory: the line of communication of an offshore base to Fao, on which it would depend for its logistics, would be vulnerable to attacks by the powerful Iranian navy and

air force (the installation itself, however, could be protected by S/A and S/S missiles). But if, for political reasons, Iraq balks at the occupation of Kuwaiti territory, her only means of becoming a real Gulf power would be through an off-shore base. If this is done, the same sequel is to be expected: the Soviet Union would supply Iraq with a considerable number of missile boats in return for the right of using the new base by its navy.

Thus, within three or four years it can be expected that Iraq will have a naval base which would either be on land, but free from foreign control over the access to it as a result of the occupation of Kuwaiti territory, or in the Gulf itself, being used by a powerful Iraqi navy constituted mainly of Komar/Osa missile boats and by a growing number of Soviet warships drawn from the Indian Ocean fleet. Such a development would certainly not suffice to lead to the replacement of Iran by Iraq as the leading naval power in the Gulf--this cannot be expected to happen over the next decade. But even a significant narrowing of the gap between the two navies as a result of the establishment of a credible Iraqi naval power, symbolically backed by the Soviet navy, would have far-reaching consequences in the Gulf. Iran would lose its option of intervening at will, without having to worry about Iraqi opposition, in any Gulf principality in case of a radical threat to its regime.

A possible scenario for the radicalization of a minor Gulf state could be as follows: a coup d'état against its ruler is planned with Iraqi participation and Soviet concurrence; at the planned time of the coup, Iraqi missile boats "happen" to be patrolling nearby, with Soviet warships not far off; the threatened ruler calls in Iranian help; the Iranian vessels rushing to the scene are deterred from action by the Iraqi and Soviet naval presence; the radical new ruler aligns himself with Baghdad and Moscow. A variation of this scenario could be the active participation of Iraqi missile boats in the coup, as every capital of the smaller Gulf states is within range of the Styx missiles. If Iraq receives a really large number of Soviet missile boats, it is not inconceivable that several such coups would be carried out simultaneously.

If indeed one or more of the oil-rich Gulf states is radicalized with Iraqi backing, this would mean more than the collapse of the Pax Iranica in the Gulf. It would cause additional difficulties for the West in obtaining its oil from the Gulf, and the consequent disarray would advance the Soviet goal of Finlandizing Europe. The implications for NATO and for US security interests are obvious.

None of these developments is, of course, inevitable. After all, the Middle East is probably the most unpredictable area in the world. The foregoing projections are based on the assumption of rational and unwavering conduct by both the Soviets and the Iraqis in pursuing their common goals: such conduct need

not be the case. There is always the possibility that for some reason the Iraqi regime will get irritated with the Russians and turn to the West. Since, however, such a course of action would signify a recognition by Iraq of the permanent supremacy of her hated eastern neighbor over the whole region of the Gulf, it is highly improbable. The process described above, of Iraq striving, with Soviet support, to establish a credible naval force in the Gulf and then engaging in a forceful policy of radicalizing the smaller Gulf states, is a far likelier sequence.

APPENDICES

Appendix I:
Maps

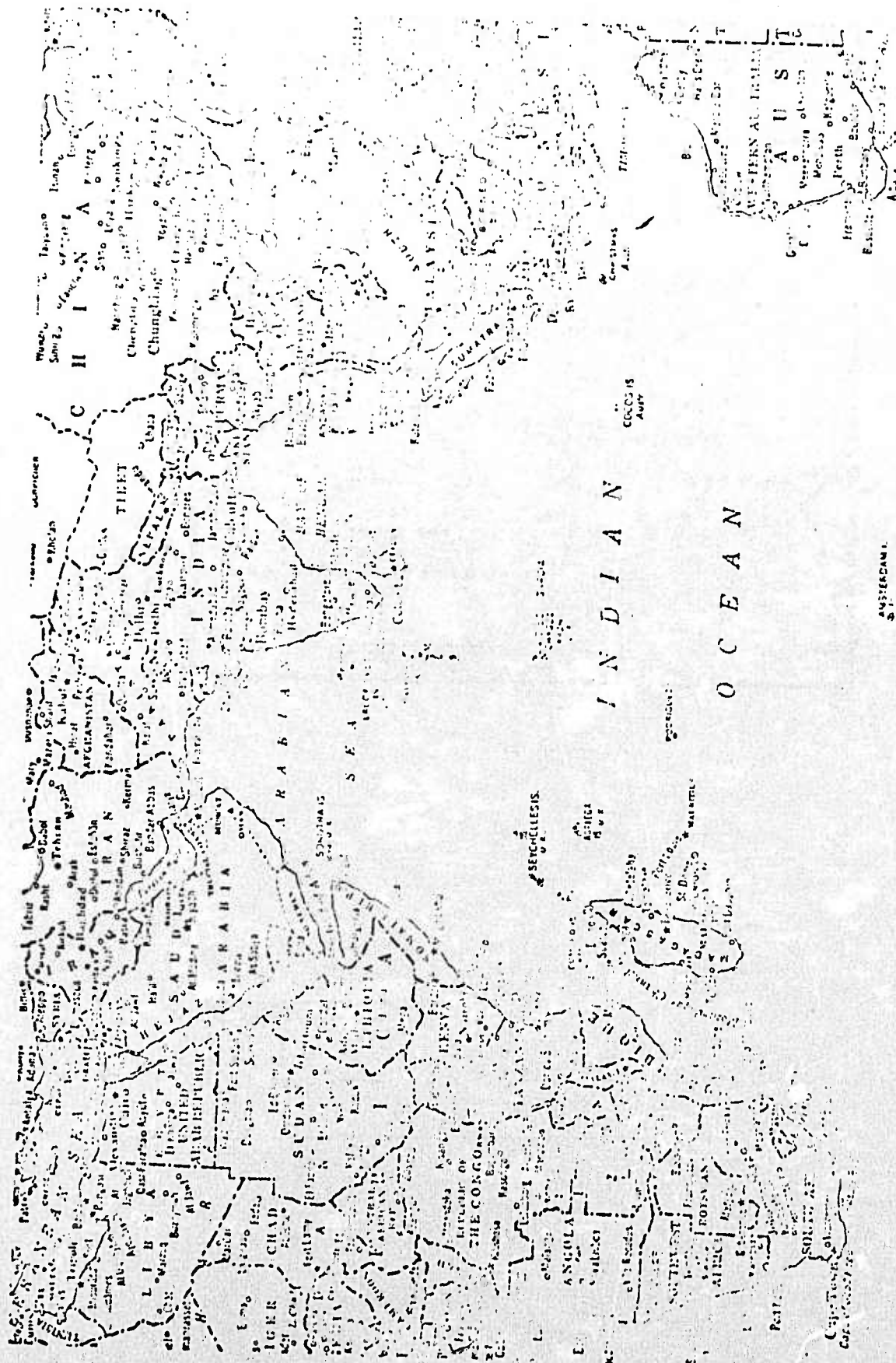
1. Iraq in relation to the Mediterranean, Europe, and the USSR.
2. The Indian Ocean.
3. The Persian Gulf area.
4. Iraq's position on the Persian Gulf.



MAP 1.

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47



Map 2.



MAP 3.



MAP 4.

Appendix II:Military Forces of the Persian Gulf States, July 1973(Source: The Military Balance 1973-74)

IRAQ

Population: 10,142,000.
 Military service: 2 years.
 Total armed forces: 101,800.
 Estimated GNP 1972: \$3.5 billion.
 Estimated defence expenditure 1972: 102 million dinars (\$338 million).
 0.33 dinars = \$1 1 July 1972.
 0.302 dinars = \$1 1 July 1973.

Army: 90,000.
 1 armoured division of 2 arm'd bdes and 1 mech bde.
 2 inf divs, each of 1 mech and 3 inf bdes.
 1 Republican Guard mech bde.
 2 special forces bdes.
 900 T-54/55 and 90 T-34 med tks; 45 PT-76, 30 M-24 lt tks; about 1,300 APC, incl 600 BTR-152;
 700 75mm, 85mm, 100mm, 120mm, 130mm and 152mm guns; 23mm, 37mm, 57mm, 85mm, 100mm AA guns.

RESERVES: 250,000.

Navy: 2,000.
 3 SOI submarine chasers.
 2 minesweepers.
 3 Osa-class patrol boats with Styx SSM.
 12 P-6 torpedo boats.
 10 patrol boats (less than 100 tons).

Air Force: 9,800; 224 combat aircraft.
 1 bomber sqn with 8 Tu-16.
 3 fighter-bomber sqns with 60 Su-7.
 2 FGA sqns with 36 Hunter.
 5 interceptor sqns with 90 MiG-21.
 3 fighter sqns with 30 MiG-17.
 2 lpt sqns with 27 An-2, An-12, An-24, Il-14, Tu-124 and *Heron*.
 35 Mi-4, 29 Mi-8 and 5 *Alouette III* hel.
 SA-2 and SA-3 SAM.

RESERVES: 18,000.

Para-Military Forces: 10,000 National Guard,
 4,800 security troops and 4-5,000 others.

IRAN

Population: 30,805,000.
 Military service: 2 years.
 Total armed forces: 211,500.
 Estimated GNP 1972: \$15.09 billion.
 Defence budget 1973: 136,340 million rials (\$2,010 million).
 76.6 rials = \$1 1 July 1972.
 67.83 rials = \$1 1 July 1973.

Army: 160,000.
 3 armoured divisions.
 2 infantry divisions.
 4 indep bdes (2 inf, 1 AB, 1 special force).
 1 SAM battalion with *HAWK*.
 60 *Chieftain*, 400 M-47 and 460 M-60A1 med tks; about 2,000 M-113, BTR-50 and BTR-60 APC; 130mm and 155mm guns; 75mm, 105mm and 155mm how; 40mm, 57mm and 85mm AA guns; SS-11, SS-12, *TOU* ATGW; *HAWK* SAM; (740 *Chieftain* tks; 155mm, 175mm SP guns and 203mm how on order.)
 About 30 lt ac, incl C-45, Li-8, Cessna 185, O-2A.
 20 *Huskie*, 59 AB-206A and 3 CH-47C hel (46 AB-205A on order).

RESERVES: 300,000.

Navy: 11,500.
 3 destroyers.
 4 frigates with *Seakiller* SSM and *Seacat* SAM.
 4 corvettes (2 in reserve).
 10 patrol boats.
 4 coastal minesweepers.
 2 inshore minesweepers.
 4 landing craft.
 8 SRN-6 and 2 BH-7 *Wellington* hovercraft.
 1 sqn with 4 AB-205A, 6 AB-212 and 6 SH-3D hel.
 (6 P-3C Orion MR ac, 202 AH-1J hel and 4 BH-7 hovercraft on order.)

Air Force: 40,000; 159 combat aircraft.
 2 FB sqns with 64 F-4D/E with *Sidewinder* and *Sparrow* AAM (70 more F-4E on order).
 6 FB sqns with 80 F-5A (141 F-5E on order).
 1 recce sqn with 15 RT-33.
 1 med lpt sqn with 35 C-130E. (20 C-130H, 4 F.28 and 6 Boeing 707-320C tankers on order).
 2 lt lpt sqns with 12 F-27 and 6 DH-C-2 *Beaver*.
 12 *Huskie*, 5 AB-206A, 5 AB-212 and 4 CH-47C hel (287 UH-1H/214A *Huey Plus* on order).

RESERVES: 15,000.

Para-Military Forces: 70,000 Gendarmerie with armoured cars, light aircraft and helicopters; one naval battalion with 40 patrol boats.

Appendix II--continued

SAUDI ARABIA

Population: 8,400,000.
 Military service: voluntary.
 Total armed forces: 42,500.
 Estimated GNP 1972: \$5.2 billion.
 Defence budget 1973-74: Saudi riyals 3,990 million (\$1,090 million).
 4.2 riyals = \$1 1 July 1972.
 3.66 riyals = \$1 1 July 1973.

Army: 36,000.
 4 infantry brigades.
 1 armoured battalion.
 1 reconnaissance battalion.
 1 parachute battalion.
 1 Royal Guard battalion.
 3 artillery battalions.
 3 AA battalions.
 10 SAM batteries with *HAWK*.
 25 M-47 med tks; 60 M-41 lt tks; 200 AML-60 and AML-90, some *Staghound* and *Greyhound* armd cars; *Ferret* scout cars; field guns; AA guns; *HAWK* SAM. (30 AMX-30 tks on order.)

DEPLOYMENT: 4,000 in Jordan.

Navy: 1,000.
 2 torpedo boats.
 1 motor gunboat.
 2 utility craft.
 9 patrol boats (coastguard).
 8 SRN-6 hovercraft (coastguard).

Air Force: 5,500; 70 combat aircraft.
 2 FB sqns with 15 F-86F (140 F-5 and 30 F-4 on order).
 2 FGA sqns with 20 BAC-167 (10 more on order).
 2 interceptor sqns with 35 F-52/F-53 *Lightning*.
 2 tpt sqns with 10 C-130 and 2 C-140B (4 C-130E on order).
 2 hel sqns with 1 *Alouette III*, 1 AB-204, 8 AB-205 and 20 AB-206.
 1 T-33 trainer, 1 Cessna 310K and 6 172G lt ac.
 37 *Thunderbird* Mk. 1 SAM.

Para-Military Forces: 3,500 National Guard (formerly known as the 'White Army'), organized into regular and semi-regular battalions; 6,500 Coastguard and Frontier Force.

OMAN

Population: 710,000.
 Military service: voluntary.
 Total armed forces: 9,600.*
 Defence budget 1973: 25.5 million rial saidi (\$77.5 million).
 0.413 rial saidi = \$1 1 July 1972.
 0.329 rial saidi = \$1 1 July 1973.

* Including some 600 expatriate personnel of several nationalities serving on contract or on secondment.

Army: 9,000.
 4 infantry battalions.
 1 frontier force battalion.
 1 armoured cavalry squadron.
 1 artillery regiment.
Saladin armoured cars; 75mm pack how; 25-pdr and 5.5 inch guns.

Navy: 200.
 1 fast patrol boat (2 more to be delivered in 1973).
 3 armed motorized dhows.
 1 patrol vessel (yacht).

Air Force: 400 (including 160 contract personnel); 12 combat aircraft.
 1 FGA squadron with 12 BAC-167.
 1 air support squadron with 3 *Caribou* and 10 *Skyvan* (2 more *Skyvan* on order).
 1 hel sqn with 8 AB-205 and 4 AB-206A (3 more AB-205A on loan from Iran).
 1 transport flight with 3 *Viscount*.

Para-Military Forces: 2,000; about 900 gendarmerie; about 1,000 irregulars.

ENERGY IN THE THIRD WORLD

By
Jean M. Ingersoll

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CONTENTS

Executive Summary	i
Energy and the Third World	1
Political Implications	1
Producer Associations	2
Africa and the Oil Route	2
Asia and Latin America	3
Economic Implications	3
The Food Production and Fertilizer Question	5
LDC Export Growth a Function of OECD GNP.	6
Effect on Primary Commodity Prices	7
Effect on Developing Countries Growth Rate	7
Probability of High or Low Variant Occurring	8
Evolution of Basic Commodity Prices 1950-1973	8
Potential for New Commodity Cartels	10
Bauxite Association	11
Copper Group	12
Iron Ore	12
Other Commodities	12
Developing Country Oil Producers 1974 Estimated Revenue	14
Cost of Oil for Non-Oil-Exporting Developing Countries 1974	14
Gross Economic Impact on 13 LDCs	14
Recycling Oil Funds	17
Third World Energy Consumption.	18
Elasticity of Demand	18
Oil a Major Source	19
"Non-Commercial" Sources Significant	19
Limited Coal Reserves	19
Other Sources	20
Sugar a Substitute for Oil?	20
References	41

TABLES

	Page
1. Alternative Assumptions of Annual Rates of Growth in GNP of Developed Regions - 1974 to 1980	9
2. Exports of 40 Developing Countries to Developed Regions by Commodity Group	9
3. Importance of Copper in Some Selected Countries	13
4. Estimated Oil Revenues, Per Capita GNP, Population, and Total Imports of Eleven OPEC Countries	15
5. Impact of Oil Price Rise on Selected Developing Countries, Ranked by GNP Per Capita	16
6. U.S. Imports of Selected Minerals from Principal Suppliers, 1972	22
7. Evolution of Basic Commodity Prices since 1950, Measured in United States Dollars, by Major Category of Commodity	23
8. Evolution of Basic Commodity Prices since 1950, Measured in United States Dollars, for Selected Basic Commodities	24
9. Evolution of Basic Commodity Prices since 1950, Measured in Relation to Unit Value of Exports of Manufacturers, by Major Category of Commodity	26
10. Price Changes in Major Commodity Exports of Developing Countries	27
11. Official Capital Flow Assumptions 1973-80 for Forty Selected LDC's as of December 1973	28
12. Coal Production in the Developing Countries, 1968	29
13. Crude Petroleum and Natural Gas Reserves and Production in the Developing Countries, 1970	30
14. Projected Consumption of Oil in the Developing Countries, 1963 and 1975	32
15. World Oil and Gas Reserves	33
16. World Oil Production	34
17. Selected Social and Economic Indicators of Development, by Groups of Countries	35
18. Fertilizer Production, Imports, Exports and Consumption in Africa	40

EXECUTIVE SUMMARY

The sudden rise in oil prices is producing varied economic effects on Third World countries. Most short- and long-term (to 1985) consequences are related to the effect of the price rise on the industrialized countries.

Major oil producers--Nigeria, Indonesia, Ecuador, Venezuela--will benefit considerably from increased revenues.

Non-oil producers will suffer depletion of monetary reserves to the extent they continue importing oil to maintain previous levels of consumption. Higher oil prices and inflation will also increase costs of imported goods and food from the industrialized countries. Total increase in import costs related to higher oil prices is estimated at \$12 billion for 1974.

Key factors that would alleviate the financial burden of higher import costs are: maintenance of high export levels and favorable prices for primary commodities; and increased external capital assistance.

Economic recession in the industrialized world would have a detrimental effect particularly on developing country exports and prices, but to some degree also on the amount of external capital assistance. The private flow of oil money from producers to users will generally bypass the poor, non-oil producing developing countries, but special loan funds totalling about \$5 billion have been established by Arab producers and the IMF and IBRD.

The impact of a prolonged economic recession in the OECD countries on the medium and high level (per capita GNP) non-oil producing developing countries would be a severe to moderate restriction in economic growth. The impact of prolonged economic recession in the industrialized countries on the poorest of developing countries would result in zero or negative growth.

That the developing countries by definition are not highly industrialized is a favorable factor in coping with high energy costs; their economies will be less severely disrupted if consumption of high-cost fuels is curtailed. An estimated 40 percent of energy consumed is supplied from "non-commercial" sources. Similarly, populations not accustomed to high consumption levels of consumer goods will not feel reduction in current levels so acutely as the more affluent countries.

Political consequences of the energy-price crisis include development of new raw materials producer cartels among the developing countries, and new relationships between Middle East oil producers and other Third World countries. Oil revenues will be used in Arab economic aid programs to bolster political alliances with Third World countries, especially those of neighboring Africa and Asian countries with large Muslim populations.

Special studies of the growing interrelationships among the Middle East and African states, and particularly the economic and strategic importance of the Persian Gulf, the Red Sea and the Indian Ocean, are recommended.

ENERGY AND THE THIRD WORLD

The price of oil has risen sharply and is not expected ever to return to 1970-71 levels. As with the industrialized countries, the impact of the 1973 energy crisis on the developing countries has been assessed primarily in financial terms. However, the future of the developing world depends heavily on the economic wellbeing of the industrialized nations that are at once their primary source of investment capital and technical assistance and markets for their commodities and manufactured goods. If the developed world suffers a sharp or prolonged economic recession the developing countries will be severely affected; their burden in financial terms will be measured not only by steep oil-import bills but by the reduction or loss of aid funds and export income.

It is the industrialized economies, with some notable exceptions, that are today facing the most staggering oil-related financial problems. Together, the U.K., Japan, Italy, and France will have a balance of payments deficit for 1974 of \$40-45 billion. (The U.S. and West Germany are expected to have surpluses.) By comparison, the Third World's estimated \$12 billion/year deficit on oil imports seems modest.

International economic specialists' views concerning the ability of the world's economic structure to cope with stresses created by the oil-price crisis range from fearful hope to gloomy resignation. Many expect a global recession of one to two years if not a severe depression; almost all have been extremely pessimistic about the developing countries' capacity to surmount the difficulties of either the immediate future or the longer term into the mid-1980s.

Just what are the political and economic implications for the developing countries of high world energy costs? And what are the disadvantages and advantages of the oil-price crisis peculiar to the Third World?

The purpose of this paper is to offer a data base for discussions of these and related questions, to provide some evaluation of the major considerations, and to indicate developing country influences in shaping the new world economic order.

Political Implications

There are several particularly significant political repercussions in the Third World from the oil embargo and price increase. One is a new sense of power exemplified by expressions of solidarity on the principle of economic sovereignty of producer nations over their natural resources. Another, combined with the first, was the direct political action of members of the Organization of African Unity (OAU) (and some non-OAU countries in the Caribbean) in breaking diplomatic relations with Israel. A third effect, at present religious and economic in character but with ultimately political consequences, is the intended use of large oil revenues by Islamic producer countries to promote Muslim solidarity in the Third World.

Producer Associations

The developing countries, pleased and inspired by evidence that a needed raw material could be used as a weapon to obtain economic advantage and consequent political clout with the industrialized world, were quick to express their approval of the technique employed by the oil producers and their intention to follow suit with similar producer cartels.

Minerals producers were in the vanguard. The already existing copper producer association (CIPEC), composed of two African and two Latin American developing countries, though unable in the past to exert control over world prices, now hopes an enlarged membership will help to achieve that aim. The bauxite producers association was formed in 1974 in the aftermath of the oil embargo. Like the copper association, its first efforts are aimed at restructuring the industry so that the supplier of the raw material owns the resource and also shares in the downstream value added from processing. The success of these two producer associations in reaching their goals depends on a number of economic factors; an important political element is the degree of cooperation the member countries can sustain as well as the kind of support they get from other Third World countries individually or within the international organizations.

The potential for new commodity cartels is discussed more fully beginning on page 10.

Africa and the Oil Route

The Third World countries most directly affected politically by the oil embargo and price rise are those of Africa, both independent black-ruled and the white minority-ruled.

The Islamic countries of the Middle East called on their brothers in black Africa to demonstrate their support by breaking diplomatic relations with Israel, which a number did with alacrity, others--particularly those that had benefited from Israel's technical assistance programs--with considerable reluctance. In return, the Arab states applied the oil embargo to the Portuguese territories of Africa, Rhodesia, and South Africa, and promised material as well as diplomatic support for African liberation movements.

The black African states expected special price and supply considerations from the oil producer nations as well as economic development aid. Disenchantment with Arab lack of performance in these areas has recently resulted in a softening of some African states' attitudes toward relations with Israel.* But the severest tests of Arab/African unity lie in the future. And they will involve a complicated series of considerations not

*...and a suggestion that perhaps the African states on the upper reaches of the Nile should sell its waters to the Arab states, "...a gallon of water for a gallon of oil, a barrel for a barrel."

only growing out of the inter-relations of the Middle East and African states themselves but the economic and strategic importance of the Persian Gulf, the Red Sea, and the Indian Ocean to the rest of the world.

U.S. relations with the Middle East and with Israel will thus in the future involve the U.S. more directly and more intensely with African political and military concerns than at any time in history, particularly with the states bordering the Red Sea and the Indian Ocean.

If in 1985 the U.S. expects to be assured of access to oil from the Gulf states and to minerals from the Red Sea and the African continent, if it expects to be in a position to influence political and military developments in the area in the direction it conceives to be in its national security interests, then it will have to devote considerably more effort than heretofore to the process of establishing mutually advantageous relationships with African as well as Middle East countries.

Asia and Latin America

The use of oil funds to promote Islamic solidarity may be expected to have some political effect on developing Asian as well as African countries. (See page 17.) (Japan is also rapidly strengthening its economic connections with Arab countries.)

Religious ties with Latin American countries are virtually absent, but Middle East oil producers have none the less signalled their intention to promote closer relationships, beginning with trade and aid projects.

Economic Implications

Listed below are some of the major energy-related economic problems facing the Third World keyed to possible offsetting factors:

I. <u>Energy-Related Problems</u>	<u>Applicable Offsets</u> (See Paragraph II)
A. Steep costs of imported oil, manufactured goods, and food and consequent drain on monetary reserves	(1, 2, 3, 7)
B. Increased borrowing and consequent increased debt service burden	(5, 6, 7)
C. Reduced exports to an economically depressed developed region and consequent reduction in earnings	(4, 8, 9, 11)
D. Unavailability of substitute forms of fuel and consequent slowdown in industrial development	(1, 3)

- E. Shortages of fertilizer and consequent shortages of agricultural products (2, 5, 6)
- F. Reduced or eliminated foreign investment and technical aid and consequent stagnant development (5, 7, 8, 9)

II. Offsetting Factors

	<u>Effective Time Span</u> (Years)
1. Elasticity of demand for fuel oil so that usage can be curtailed with relative ease	< 1 - 5
2. Subsistence agriculture is essentially unaffected by energy crisis	—
3. "Non-commercial" fuels provide 40 percent of energy requirement	—
4. Prices of primary commodities are high, providing foreign exchange	1 - 2
5. Surplus oil revenues from producer countries may be made available for development and oil-import financing	< 1 - 10
6. International organizations may provide concessional loans to finance reserve gap	< 1 - 5
7. Commodity/Service barter arrangements may be made	< 1 - 10
8. Development of alternative sources of energy by industrialized countries can benefit developing countries (oil exploration, uranium)	1 - 10
9. Competition among industrialized countries for strategic raw materials maintains high export prices	3 - 5
10. Development of new sources of petroleum in the Third World as well as by industrialized countries (in North Sea, Alaska, Canada) brings in revenue, brings down price	5 - 10
11. Heavy demand for a staple developing country crop--sugar cane--to produce sucrose molecule to replace hydrocarbon molecules in plastics, detergents, animal feed	< 10 - ?

While some of the above problem/offset situations are tentative or theoretical, requiring a further playing out of events before they can be properly evaluated, others have been confirmed by very recent developments.

To cite a few examples of the latter, oil funds are now being made available to non-oil producing poor countries through IBRD and IMF loans and for Muslim countries through the newly established Islamic Development Bank; prices of some primary commodities exported by developing countries remain high or have increased, i.e., bauxite; the search for oil and uranium is being carried out by OECD private enterprise throughout the developing world and with full appreciation of the demands of developing country economic nationalism.

The Food Production and Fertilizer Question

One of the most popular scenarios for the long-term effect of the energy crisis on the developing countries is from the environmental-economic Doomsday School. It combines concern over the wretched material levels of existence in the Third World with valid projections of deteriorating world economic conditions to arrive at a prediction of widespread famine and death for untold millions.

The high price of fertilizer imports and insufficient national income and reserves to pay for them are the primary causes of disastrous famine in this analysis.

There is no doubt that unusually straitened economic conditions in the developing countries, aggravated by prolonged zero growth in the industrialized countries, could seriously reduce a population's capacity to cope with shortages of food crops. But fertilizer is not a critical factor in traditional subsistence agriculture. For years, foreign assistance programs and local governments have stressed the need for improved agricultural techniques, including the use of commercial fertilizers and hybrid seed, to increase food production in the developing countries. With the exception of India, for the most part such improvements are in use in these countries only in pilot schemes. They have not touched the daily lives of the majority of people--subsistence farmers and herders--except peripherally as part of their government's promise for the future. Reduced availability--or prohibitive prices--of commercial fertilizers in the developing countries therefore will not be the decisive element.

The fact that fertilizer is not now used extensively in developing countries does not negate the desirability of achieving higher rates of consumption in the future, and there are feasible alternatives for reaching this goal in spite of high prices and farmer indifference. One factor is that Third World oil-producing countries are now in the process of establishing large petro-chemical plants locally; increased production

and their wide geographic distribution should help to move prices downward.* Moreover, for political reasons at least some of the output from the Middle East plants may be made available on concessional terms or through barter arrangements.

Water has been and remains the crucial limiting factor for agriculture in vast areas of the world. Considerable progress toward management of water resources has been made in many of the poorest countries where dependence on marginal quantities of rainfall makes agricultural production hazardous at best. With the help of foreign aid programs, they have improved local production of food crops and livestock by digging wells and building earthen dams to capture runoff. Such programs are relatively inexpensive and require very little petroleum.

In sum, the energy-price crisis does not pose particularly new and unusual problems for the developing countries with respect to food production. In the past, where world attention has been drawn to dramatic instances of famine, as in the case recently in the Sahel region of Africa, the world has responded to provide relief, and, if able, it will do so again. Widespread crop failures--or severe economic depression in the industrialized countries--would of course drastically diminish relief programs.

To eliminate the underlying causes of chronic malnutrition and periodic famine, that is, to bring about an educational/agricultural revolution such that population growth is kept reasonably in balance with the capability of that population to manage its land and water resources to feed itself will remain the compelling problem for the Third World in 1985 whatever the price of oil.

LDC Export Growth a Function of OECD GNP

The World Bank has attempted to answer the question whether developing countries' exports to the industrialized countries will offset increased oil import costs.

Estimates made prior to the energy crisis of 1973 projected an increase of the volume of imports by the industrialized countries from the developing countries of about 8 percent/year between 1973 and 1980.

Rate of growth of export volume for forty developing countries in a recent World Bank study are correlated to high and low estimates of annual rates of growth of GNP in the developed countries. (Tables 1 & 2, page 9.)

* Sri Lanka, one of the poorest countries, will have two fertilizer plants in operation by 1978; financing is from West Germany and India. The West German government and private banks are financing a 500,000-ton fertilizer plant to be built near Alexandria, Egypt.

High Variant: If the OECD countries succeed in maintaining a relatively high GNP growth rate of 6 percent in the 1976-80 period, the 40 developing countries are projected to maintain relatively high export growth rates. By the same token, if there is an economic slowdown of relatively short duration in the industrialized countries, the rate of export growth of the developing countries is projected at 7.8 percent, only slightly reduced from the 1973 projections.

Low Variant: A more prolonged economic slowdown in the OECD countries, starting with minimal growth of GNP in 1974 and continuing at rates substantially lower than historical averages, say, 3.9 percent, could result in an estimated 25 percent reduction in export growth in the developing countries to an annual average rate of 6 percent during the 1976-80 period. For the lowest income countries (PCGNP basis), the export growth rate would be as low as 4.5 percent, with India, at a rate of 3.6 percent, severely affected.

Effect on Primary Commodity Prices

The IBRD would expect primary commodity prices to maintain a "fairly high" level as compared to the years before 1972 in the case of the High Variant situation for OECD countries. After 1974, a 4 percent/year increase in current dollars is projected, equivalent to a decrease of only 1.5 percent/year in constant dollars.

If the lower growth rate for the industrial countries is assumed, primary commodity prices are projected to increase by only 2 percent/year in current dollars after 1974, for an average yearly decline of at least 3.5 percent in real terms.

Effect on Developing Countries Growth Rate

Under the IBRD High Variant level, slowed economic growth in the industrial countries, with corresponding decreased imports from the developing countries, would have a moderate effect on economic growth of the High and Middle Income groups of developing countries, but rate of growth of the Low Income group of countries would be reduced below the rate of population growth. Under the Low Variant the Low Income group would essentially stagnate for the rest of the decade.*

* Higher Income countries (1971 per capita GNP above \$340): Argentina, Brazil, Chile, Colombia, Dominican Republic, Greece, Guatemala, Malaysia, Mexico, Peru, Turkey, Uruguay, Yugoslavia, Zambia; Middle Income (\$200-340): Cameroon, Ecuador, Egypt, Ghana, Ivory Coast, Korea, Liberia, Morocco, Philippines, Senegal, Sierra Leone, Syria, Thailand, Tunisia; Lower Income (less than \$200): Bangladesh, Bolivia, Ethiopia, India, Kenya, Mali, Pakistan, Sri Lanka, Sudan, Tanzania, Uganda, Zaïre.

Probability of High or Low Variant Occurring

The World Bank scenarios are keyed to economic conditions in the OECD countries. As of this writing (September 1974), the world outlook is gloomy with, for example, predictions of a dangerous slump in the U.S. economy lasting through 1976.

In these circumstances the Low Variant would appear most likely to obtain, that is, most developing countries can be expected to suffer an economic slowdown corresponding to that of the industrialized countries. It should be borne in mind, however, as suggested earlier, that this will have little significance for the very poorest countries--they will simply go on subsisting. Oil producers among the developing countries will of course enjoy a boom.

Evolution of Basic Commodity Prices 1950-1973

Besides volume of exports, the income from developing country primary commodities is crucial to filling the oil-import price gap.

The developing countries, spurred by Iran and Algeria, responded to the developed world's consternation over the sudden increases in oil prices by convening a U.N. conference on raw materials and development in April of 1974.

A frequently voiced complaint at the U.N. sessions was that terms of trade between developing country raw materials and the developed countries' manufactured goods were consistently unfavorable to the developing countries.

As indicated by Tables 7 - 9, pages 23 - 26, primary commodities (food, agricultural raw materials, and mineral raw materials) did show a small decline in relation to manufactured goods in the period 1950 to 1973 but in the latter part of that period, 1970 to 1973, increases in primary commodity prices were far greater than the rise in the unit value of manufactured goods exports. The overall terms of trade of primary commodities in relation to manufactures rose by about 45 percent between 1970 and 1973, most of the increase occurring in the last 12 months. Since the beginning of 1973 the average price level for primary commodity exports rose by about 70 percent.

Despite this apparent contradiction of the developing countries' claim of terms of trade disadvantage, analysis of the different categories lends support to their contention. (Table 7.) Prices of developing country exports generally rose less than for exports from developed countries. For example, meat, which rose by about 370 percent in the 1950-73 period, and cereals, which increased by about 145 percent, are for the most part developed country exports. Beverage crops--coffee, tea, cocoa--which are developing country exports, rose by about 47 percent.

TABLE 1
ALTERNATIVE ASSUMPTIONS OF ANNUAL RATES OF GROWTH
IN GNP OF DEVELOPED REGIONS - 1974 TO 1980

	(percent per annum)							
	1972 (Actual)	1973 (Est.)	High Variant			Low Variant		
			1974	1975	1976- 1980	1974	1975	1976- 1980
Japan and Oceania	8.5	10.3	4.0	6.0	7.0	3.0	5.0	7.5
Western Europe	4.3	6.0	2.0	2.5	5.5	0.5	1.5	3.0
United States, Canada	6.1	6.1	2.3	3.5	6.0	1.5	2.5	3.5
Average, All OECD Countries	5.7	6.6	2.4	3.5	6.0	1.3	2.5	3.9

Table 2 shows how the different commodity groups are influenced by alternative rates of growth in the industrial countries.

TABLE 2
EXPORTS OF 40 DEVELOPING COUNTRIES TO DEVELOPED
REGIONS BY COMMODITY GROUP

Commodity Group	Average Annual Rates of Growth of Export Volume, 1973-1980 (percent per annum)		
	December 1973 Projections		March 1974 Projections
			High Variant Low Variant
Food and Food Products	3.5		3.4 2.6
Non-Food Agricultural Products	1.9		1.7 1.5
Metal and Minerals	5.7		5.3 3.7
Petroleum Products	9.8		8.9 6.2
Manufactures	16.3		15.9 11.1
Services	13.5		12.7 8.7

Source: IBRD, "Additional External Capital Requirements of Developing Countries"
 Washington, D. C. March 1974

Certain items registered impressive increases in the 1950-73 period. Beef prices increased by nearly 644 percent, zinc ore by about 350 percent, copper ore by 326 percent, fish by nearly 292 percent, copper by more than 288 percent, and crude petroleum by 163 percent. (Increase for petroleum in early 1974 as compared to 1971 is put at 300-400 percent.)

Since 1970 the upsurge in commodity prices has averaged 100 percent, with all commodities except aluminum, bauxite, jute, and tea registering increases. Zinc ore, second in rank for the longer 1950-73 period, was highest at 355 percent. Wheat rose over 200 percent, wool by 175 percent, eggs 150 percent, and beef 130 percent.

Acceleration in the primary price spiral in the past few years is attributed to three factors: real shortages of supply, widespread speculation in commodity holdings and the major currencies, and, in the case of petroleum, joint action by the producers.

A recent World Bank study evaluates the trends in primary commodity prices for 1974:

"Markets for foodgrains will remain tight; the natural products which compete with petroleum-based synthetic products will benefit from an improved competitive position; metals and minerals prices may weaken most in relative terms. Speculative factors, by their nature unpredictable, may still favor high prices in view of the accelerated inflation in industrial countries and continued exchange rate uncertainty. In terms of the export prospects of the developing countries, this factor may to some extent offset the effects of the economic slowdown in the industrial countries, at least in 1974.

Beyond 1974, price projections for primary commodities depend on the assumptions made with respect to growth in the industrial countries as those are the main markets for such products."

Potential For New Commodity Cartels

An outgrowth of OPEC's concerted action to raise oil prices is a spate of threats by producers of raw materials (sometimes a mix of developed and developing countries as well as the latter alone) to form similar cartels to control ownership and prices. The threats are countered by

*Developing countries are importers as well as exporters of primary commodities. According to IMF estimates (which do not take into account reduction in demand) non-oil exporting countries might need as much as \$3,000 million in 1974 to meet additional costs of primary commodity imports, including fertilizers.

dire warnings from the industrialized users that such action would be counterproductive; the industrialized countries can find substitute materials, they say, and the less developed countries will be left holding the bag.

Success of cartel action hinges on (a) scarcity of the material, (b) strategic need, and (c) unity among producers. Although developing country food exporters of bananas, coffee, cocoa have exercised some control over world production and prices these commodities lack the (a)/(b) qualification for successful cartelization. Some minerals producers enjoy two or more of these qualifications.

Developing countries equal or outstrip developed country suppliers of U.S. imports of a number of strategic minerals. In 1972 the most significant of these were bauxite from the Caribbean countries Jamaica, Surinam, and Guyana, 88.2 percent, and alumina from the same countries, 46.4 percent.

Bauxite Association

In March of this year Australia and Yugoslavia joined Guyana, Guinea, Jamaica, Sierra Leone, and Surinam to form the International Bauxite Association with headquarters in Jamaica. Other bauxite producers will be invited to join. Its objective: to secure maximum national ownership and effective national control over the countries' bauxite industries, and to secure fair and equitable returns from bauxite resources. Guinea has about two-thirds (8 billion tons) of the world's proven bauxite reserves; Guyana a virtual monopoly on calcined bauxite.

The bauxite producing countries and the newly formed IBA, while asserting their intention to attain "more just, reasonable and legitimate trade relations between various countries," have been at pains to assure the world that it is not the intention of the producers to exploit the users of their raw material. At the same time they do not appear to be intimidated by the aluminum companies' threats to obtain their raw material from alternative substances available outside the developing countries.

Jamaica was first off the mark in exercising the IBA principle of sovereignty over resources when it sharply increased taxes on bauxite mining for the first quarter 1974. Most of the affected U.S. companies are resisting the action and have taken the dispute to the International Center for Settlement of Investment Disputes for arbitration. Anaconda said it would comply with the new taxes but only under protest of the "unilateral increase of some 800 percent" in revenue payments to Jamaica which it said constituted breaking the original investment agreement.

Copper Group

Four developing countries, Chile and Peru in Latin America and Zaïre and Zambia in Africa, some years ago formed the Intergovernmental Council of Copper Exporters (CIPEC). Its objectives, like those of OPEC, are to stabilize copper prices and expand copper markets.

Zambia supplies 24 percent of copper exports to the world market, Chile 21 percent. The Third World has the largest copper reserves in the world and produces 36 percent of world supplies, most of it from CIPEC countries.

CIPEC has often proclaimed its intention to establish a floor price for copper exports, but has never carried through in the face of availability of ample supplies in industrialized countries and the possibilities for substitution of other materials in industrial uses. In addition, copper prices have in any case increased rapidly in world market since 1970. It is difficult to see how the situation will be different in these respects for some time and therefore it would seem unlikely that there would be any dramatic action affecting world markets in copper in the near future. All of the CIPEC governments have already established national control and majority participation in their copper mining operations.

Iron Ore

In April 1974 an informal meeting of iron ore producers attended by Peru, Venezuela, Chile, Brazil, Mauretania, Algeria, Gabon, Philippines, and India--with Canada, Sweden, and Australia as observers--discussed the desirability of setting up a producer's group similar to those for oil, bauxite, and copper. In addition to cooperating to establish a floor price for iron ore, the group also considered proposals to insert escalator clauses in sales contracts to protect the producers from unfavorable currency changes and inflation and to develop a system to correlate prices of iron ore to prices of finished iron and steel products.

Venezuela accounts for 30.6 percent of U.S. iron ore imports, had 7 percent of the world market in 1970. The Venezuelan government is currently holding talks on nationalization with U.S. Steel and Bethlehem Steel, which mine all the country's 22 million ton/year output.

Other Commodities

Other essential commodities heavily represented on world markets by the developing countries are tin, Malaysia 50 percent and Bolivia 16 percent; and rubber, Malaysia 38 percent.

TABLE 3
IMPORTANCE OF COPPER IN SOME SELECTED COUNTRIES

Country	Copper Reserves (million tons metallic Cu)	Copper Production (thousand tons)	Rate of Exploitation Percent of reserves	Years of reserves at present	
				Production	Consumption
United States	85.5	1,560	1.82	54.8	46.2
Canada	10.0	610	6.10	16.4	43.7
Soviet Union	38.5	1,100	2.85	35.0	36.1
Chile	71.8	700	0.97	102.6	348.5
Peru	24.6	212	0.86	116.0	615.0
Zambia	30.0	584	2.28	43.8	1,500.0
Zaire	20.0	387	1.93	51.7	2,000.0
Other	40.0	1,099	2.74	36.4	12.2
TOTALS	320.4	6,553	1.98	50.3	50.3
Western Ind. Nations	111.5	2,706	2.43	41.2	20.6
Communist World	56.5	1,396	2.47	40.5	37.9
Third World	152.4	2,251	1.47	67.7	597.0

Source: Minerals in World Affairs
Alexander Sutulov
University of Utah Printing Service
Salt Lake City 1972

1. The Third World has the largest copper reserves in the world.
2. Its demand for copper is insignificant and most of its production is being exported to the industrial countries.
3. Even with this increased production, which is 9 times larger than consumption, the Third World depletes its reserves at a lower rate--1.5 percent per year as compared with 2.5 percent in the developed and communist countries.
4. At the present rate of production, the Third World has copper for a period 1.6 times longer than the Western World, and at the present rate of consumption, for a period roughly 30 times longer.

The two central African countries who are members of CIPEC, Zaire and Zambia, provide the U.S. with 43 percent of its imports of cobalt. Gabon, Zaïre, and Brazil supply 55.5 percent of U.S. imports of manganese.

Developing Country Oil Producers 1974 Estimated Revenue \$100,000 Million

Saudi Arabia, Kuwait, Iran, Abu Dhabi, Qatar, Venezuela, Iraq, Algeria, Libya, Nigeria, Indonesia, and Ecuador, the members of OPEC, are themselves developing countries. They control 78 percent of the free world's known oil reserves (53 billion tons out of a total 68 billion tons) and account for 57 percent of free world petroleum output--about 1,038 million tons in 1970 out of 1,810 million tons.

In 1972 oil revenues of four of the group--Venezuela, Nigeria, Algeria, and Indonesia--fell far short of covering their total imports. World inflation and increased volume of imports would raise these costs in 1974 considerably. However, estimated 1974 oil revenues for each of the twelve OPEC members will produce a dramatic surplus of revenue over estimated costs of imports. Their combined revenue in 1974 is expected to be more than \$100,000 million compared to some \$12,000 million in 1971.

It is estimated that OPEC members will have revenues of about \$500-600 billion available for investment in the 1970-1985 period.

Cost of Oil For Non-Oil-Exporting Developing Countries 1974

If the non-oil-exporting developing countries reduced the volume of oil imported from the 1973 level of 1,547 million bbls to 1,395 million bbls, at a price of \$9.00/bl c.i.f. the import bill would be \$12,555 million for 1974. A modest increase in volume of oil imports at that price would put the 1974 import bill for these countries at \$15,120 million, an increase of some \$12,000 million over 1973 estimated import costs. (Table 5, page 16.)

Gross Economic Impact on 13 LDCs

The gross economic impact of \$9.00/bl oil imports on 13 developing countries with per capita GNP ranging from \$70 to \$760 may be roughly measured by adding the estimated 1974 oil import bill and debt service figures and comparing them to the 1973 reserves plus or minus the difference in export-import totals for 1973. (Table 5, page 16.)

Sri Lanka, the poorest of the 13 countries, would show a \$111 million deficit in 1974 on this basis. Brazil, one of the wealthiest of the 13 developing countries, on the other hand, would show a positive balance of more than \$4,000 million.

TABLE 4
ESTIMATED OIL REVENUES, PER CAPITA GNP, POPULATION
AND TOTAL IMPORTS OF ELEVEN OPEC COUNTRIES*

Country	Estimated Government Oil Revenue (\$ millions)			Estimated Per Capita Government Oil Revenue (\$)			Per Capita GNP (\$)	Popu- lation (millions)	Total Imports (\$ millions)	
	1972	1973	1974	1972	1973	1974*	1971	1973	1971	1972
Saudi Arabia	2,988	4,915	19,400	393	630	2,456	540	7.8	806	1,229
Iran	2,423	3,885	14,930	79	123	461	450	31.5	1,871	2,410
Kuwait	1,600	2,130	7,945	1,758	2,131	7,223	3,860	1.0	678	797
Iraq	802	1,465	5,900	80	141	551	370	10.4	696	713
Abu Dhabi	538	1,035	4,800	11,700	22,565	43,636	3,150	0.1	n.a.	n.a.
Qatar	247	360	1,425	1,941	2,175	9,500	2,370	0.1	n.a.	n.a.
Venezuela	1,933	2,800	10,010	176	250	870	1,060	11.2	2,301	2,433
Libya	1,705	2,210	7,990	820	1,005	3,631	1,450	2.2	712	1,104
Nigeria	1,200	1,950	6,960	21	33	114	140	59.4	1,506	1,502
Algeria	680	1,095	3,700	45	71	233	360	15.4	1,221	1,760
Indonesia	480	830	2,150	4	7	17	80	124.0	1,174	1,458

*ODC estimate based on World Bank estimates for OPEC government oil revenues, population (mid-1971), and population growth rates.

SOURCES: Oil Revenue figures are informal World Bank staff estimates; GNP and Population figures are from *World Bank Atlas, 1974* (Washington, D.C.: World Bank Group, 1974); Import figures are based on *International Trade, 1972* (Geneva: General Agreement on Tariffs and Trade, 1973) Publication Sales No. GATT 1973-3.

In: Grant, "Energy Shock and the Development Prospect" Overseas Development Council, Washington, D. C., 1974

*Ecuador became a twelfth member early in 1974.

TABLE 5
IMPACT OF OIL PRICE RISE ON SELECTED DEVELOPING COUNTRIES,
RANKED BY GNP PER CAPITA

Country	Estimated Oil Import Bill (\$ million)			Total Imports (\$ million)		Estimated Debt Service (\$ million)		Total Reserves (\$ million)		Change in Total Reserves (per cent)		Total Exports (\$ million)		Primary Exports as % of Total Exports	Net ODA From DAC Countries ^a (\$ million)	GNP Per Capita (\$)
	1972	1973	1974 ^a	1972	1973	1974	1975 ^b	1972	1973 ^c	1970-1973 ^b	1972	1973 ^d				
Bangladesh	25	35	95	929	807	n.a.	200 ^e	77	n.a.	+ 79	313	372 ^f	1967-1968 July, 46 Jan, 51	200	70	
Sri Lanka	35	50	150	413	536	48	77		n.a.		313	372 ^f	rubber, 19 coconut, 12 Jan, 23 tea, 12	55	100	
India	265	415	1,350	3,196	4,048	650	1,403 ^h		+ 40		2,401	2,477	iron, 7 cotton, 11 coffee, 24 tea, 15 oil, 9	608	110	
Pakistan	65	85	260	1,144	1,455	278	396		+118		737	1,107		318	130	
Kenya	25	40	115	698	854	30	286		+ 30	n.a.	364 ⁱ	n.a.		72	160	
Thailand	125	180	510	1,616	1,737	52	1,267		+ 40		1,063	1,503	rice, 27 rubber, 14	53	210	
Philippines	185	265	740	1,662	2,480	128	867		+245		1,105	1,955	wood, 24 sugar, 17	164	240	
Ghana	20	25	70	466	570	49	223		+284		389	562 ^g	cocoa, 55	60	250	
Morocco	50	80	215	1,057	1,336	102	304 ^g		+117		633	985	phosphate, 24 food, 17	97	270	
Korea, South	205	325	1,075	2,715	3,531	332	1,034		+ 70		1,624	3,088	wool, 13 fish, 6	361	290	
Brazil	425	540	1,425	5,185	7,109	329	6,462		+444		3,991	6,038	coffee, 39 cotton, 7	94	460	
Uruguay	40	60	160	239	369	30	210		+ 20		197	3 ^h	wool, 42 meat, 30	21	750	
Chile	n.a.	147	362	1,211 ⁱ	n.a.	312	n.a.		n.a.		961	962	copper, 78	39	760	

^aThe oil import bill was calculated on the basis of the developing country's projected oil import consumption at approximately \$9.00 per barrel c.i.f. While an oil import bill calculated in this fashion may be unrealistic in terms of what many developing countries can afford to pay, it nevertheless reflects the order of magnitude of the economic difficulties faced by these same countries.

^bAs of September 1973, unless otherwise noted.

^cThe value of total imports in 1973 are those for the second quarter of 1973 expressed in annual rates, unless otherwise noted.

^dComposed of net bilateral ODA and concessional multilateral flows.

^eTotal reserve position as of July 1973.

^fTotal reserve figure for Bangladesh obtained from U.S. Agency for International Development.

^gFirst quarter exports expressed in annual rates.

Total reserve position as of June 1973.
Based on International Trade, 1972 (Geneva: General Agreement on Tariffs and Trade, 1972).
Publication Sales No. GATT 1973-1.

SOURCES: OI Import and Total Import figures are based on informal World Bank staff estimates; Debt Service figures are from Bureau for Program and Policy Coordination, U.S. Agency for International Development; Total Reserves and Total Export figures are from International Monetary Fund, International Financial Statistics, December 1972; Net Official Development Assistance figures are based on Report by the Chairman of the Development Assistance Committee, Development Co-operation, 1972 Review (Paris: OECD, 1972); GNP figures are from World Bank Atlas, 1974 (Washington, D.C.: World Bank Group, 1974).

Recycling Oil Funds

OPEC members have generally expressed agreement with the major powers and international financial institutions that their enormous oil revenue surpluses should be recycled to benefit fellow developing countries as well as providing balance of payment relief to the OECD countries.

The question is whether the estimated \$12,000 million annual increase in oil import costs of the developing countries will in fact be met by the means proposed--primarily concessionary loans and increased investments from the traditional sources as well as from the newly rich OPEC members, but also from increased prices of other primary commodities exported from developing countries to the developed world.

Ideally, surplus revenues from the oil producing countries would be invested so as to finance trade deficits of the oil-consuming countries. In August the Middle East oil producers and Canada completed arrangements to lend the IMF some \$3.4 billion to finance credits through 1975 to member countries having difficulty paying for oil imports.* As it now stands, the poorest countries would not qualify under IMF regulations as "credit-worthy" for loans, but a new type of loan is expected to be approved soon so that assistance can be given to some 17 of the poorer non-oil exporting developing countries. IBRD has borrowed about \$1.2 billion from the oil-exporting countries for loans to developing countries.

Another \$3,000 million emergency fund has been proposed by the U.N. to assist the poorest oil-consuming countries, with half the money again to come from the oil-producing nations. Implementation of the proposal appears in doubt, however, chiefly because the Middle East oil producers are said to prefer channeling their aid through Islamic agencies.

Saudi Arabia is taking the lead in organizing the Islamic Development Bank to assist Muslim projects in Africa and Asia. All Muslim countries are expected to contribute a minimum of \$2.5 million each to be eligible for loans, but 75 percent of the initial \$1 billion capitalization goal is expected to come from the Middle East oil producers. Most loans would be made to Muslim governments, but large Muslim communities within non-Islamic countries such as India, Thailand, and the Philippines would also be eligible. A new currency called "Islamic Dinar" is to be created; it would have the value of one SDR.

The Arab nations have promised bilateral assistance to neighboring African countries and have set up a special \$200 million fund, which is being allocated by an OAU committee. Arab trade missions are touring the developing world and the Intra-Invest Bank of Beirut has announced investment plans for Brazil.

*Saudi Arabia is providing \$1.2 billion; Iran, \$700 million; Venezuela, \$540 million; Kuwait, \$480 million; Abu Dhabi, \$120 million; Oman, \$24 million; Canada, C\$300 million.

Oil funds are also coming into the OECD countries for short-term investments, but U.S. bankers have expressed doubt the U.S. would be able to recycle the money flowing into this country to those having balance of payment difficulties for some considerable time. In any case, most of the oil money flowing into the OECD countries is likely to flow out to other OECD countries, rather than to the non-oil producing developing countries.

In sum, the oil-deficit developing countries can expect a reasonable amount of relief for their balance of payment problems principally from the IMF, the IBRD, and Islamic organizations. They will benefit further to the extent recycling of oil funds through OECD countries contributes to world economic stability and maintenance of high export levels of primary commodities from developing countries.

Third World Energy Consumption

The developing countries, with more than 70 percent of the world's population, in 1970 accounted for about 15 percent of world consumption of energy.

<u>Region</u>	<u>Population</u>	<u>Energy Consumed</u>
Latin America	7.8%	4.3%
Africa	9.7	1.7
Asia (Communist)	22.0	5.3
Asia (Other)	31.3	4.5

In quadrillion BTUs world consumption in 1970 was 214.50. (Projections for 1985 are for consumption of QBTU 450.) The developing regions' share was as follows:

Latin America	9.13 QBTU
Africa	3.68
Asia (Communist)	11.30
Asia (Other)	9.56

Energy consumption in 1968 averaged 298 kg. of coal equivalent per capita in the developing countries; this compared with per capita consumption of 3,312 kg. in Europe and 10,331 kg. in the U.S. In the latter areas, 25-30 percent of total energy is utilized by the residential sector, primarily for space heating; most developing countries are in climatic zones that do not require use of energy for residential heating.

Elasticity of Demand

According to the U.N., income elasticity of demand for energy in the developing countries during the 1960s was 1.6, that is, a 1 percent

increase in GDP was accompanied by a 1.6 percent increase in demand for energy. In developed market economies the coefficient is approximately 1.

Oil a Major Source

Oil as the source of energy in 1970 in the Third World was as follows:

Latin America	67.8%
Africa	48.7
Asia (Communist)	8.2
Asia (Other)	58.7

"Non-Commercial" Sources Significant

Many developing countries report only part of their total energy consumption because there is no systematic accounting for the considerable utilization of non-commercial sources of energy. These non-commercial sources are primarily fuel wood, bagasse (residue of sugar cane) and animal and vegetable wastes. Best available estimates indicate that non-commercial sources account for about 40 percent of total energy consumption in the developing regions.

Contribution from these sources to total energy consumed is estimated at 27 percent for Latin America, 56 percent for Asia, and 48 percent for Africa.

(Garbage and manure are also utilized in high technology countries. Some 120 million cuft of methane gas is produced from a \$4 million manure gasification plant adjacent to a beef cattle feedlot in the U.S. The dried manure residue is used as an animal feed supplement and as concentrated fertilizer.

Such plants are not numerous, however, and the American Gas Association has recommended a \$10 million government-industry research and development program to produce gas from solid waste. SRI estimates 75 billion cuft of gas can be produced from solid waste in the U.S. by 1985.)

Limited Coal Reserves

The Third World has very limited solid fuel resources. Coal production in Asia accounts for over 90 percent of total production of solid

*Stanford Research Institute

fuels in the developing countries. India, accounting for 97 percent of total coal reserves in Asia, produces about 72m tonnes/year; Turkey and Korea produce over 5m tonnes*/year each. Latin America and Africa each produce less than 5m tonnes/year. Colombia and Rhodesia have the largest reserves outside Asia. (Table 12, page 29.)

Most coal reserves in the developing areas are of the sub-bituminous or low-grade type; only the Republic of Korea has appreciable reserves of anthracite.

The Far East subregion and Africa are the only areas where sufficient reserves exist to enable substitution of coal for liquid fuels to any appreciable extent.

Other Sources

There is enormous potential for controlling water, wind, solar, and geothermal resources to supply a considerably greater portion of Third World energy requirements than at present. Many of the developing countries are aware of these assets and have obtained assistance to develop them from international agencies or have plans to do so.

Sugar a Substitute For Oil?

A promising economic prospect for the developing countries, so many of which either depend on sugar as an export crop or have the conditions for growing sugar cane, is the research under way to substitute sugar for petro-chemical feedstocks.

The sucrose molecule, composed of carbon, hydrogen and oxygen, is similar to the hydrocarbon molecules available from oil and both can be processed to form hydroxyl groups. Laboratory tests show that sugar can be substituted in the manufacture of polystyrene, polyethylene, formaldehyde, and in the production of resins.

A 5,000 ton/year plant is planned by a U.K. firm to produce industrial detergents using sugar and tallow as raw materials. The process uses no dangerous solvents, is lower in capital and production costs than plants using hydrocarbons, prices of the detergent are slightly lower than equivalent hydrocarbon-based detergents, and the product is 100 percent biodegradable. Pilot plants are also in operation producing high quality animal feedstuffs from sugar. In South Africa petrochemicals had made heavy inroads into a \$25 million/year molasses fermentation industry producing ethyl alcohol and ethylene. The industry looks to recover this market if high oil prices continue to narrow the competitive margin favoring petrochemicals.

*Tonnes means metric ton.

Because the U.K. process is still in the development stage it is not possible to assess the full degree of substitution of sugar for petrochemicals that ultimately may be feasible, but it is estimated that some 150 million tonnes/year of sugar would be required for industrial uses once the process is widely employed--perhaps within five years.

The potential significance of this for tropical cane sugar producing countries is apparent from 1973-74 world production figures for raw sugar which is estimated at little more than half the above-mentioned tonnage, or 80 million tonnes, 48 million from cane, the remainder from beet sugar.

TABLE 6
U.S. IMPORTS OF SELECTED MINERALS FROM PRINCIPAL SUPPLIERS, 1972

Mineral	Imports as Per cent of U.S. Consumption	Major Developed Country Suppliers, with Imports Supplied by Each	Total, Major Developed Country Suppliers	Major Developing Country Suppliers, with Imports Supplied by Each	Total, Major Developing Country Suppliers
Aluminium ^a	96				
Bauxite		Australia, 2.0%	2.0%	Jamaica, 53.5% Surinam, 27.4% Guyana, 7.3%	88.2%
Alumina		Australia, 40.9% Canada, 0.6%	41.5%	Jamaica, 26.0% Surinam, 19.8% Guyana, 0.6%	46.4%
Metal		Canada, 63.1% Norway, 7.6%	70.7%		
Chromium ^b	106	South Africa, 32.0% U.S.S.R., 27.8% Turkey, 29.6%	85.4%		
Cobalt ^c	98	Belgium- Luxembourg, 28.8% Finland, 10.0% Norway, 7.3%	46.1%	Zaire, 34.5% Zambia, 8.5%	43.0%
Copper ^a	18	Canada, 34.1%	34.1%	Peru, 23.2% Chile, 14.7%	37.9%
Iron/Steel ^a (iron ore)	28	Canada, 50.6%	50.6%	Venezuela, 30.6%	30.6%
Lead ^a	26	Canada, 33.1% Australia, 17.4%	50.5%	Peru, 22.0% Mexico, 9.7%	31.7%
Manganese ^a	95	South Africa, 14.6%	14.6%	Gabon, 26.3% Brazil, 18.8% Zaire, 10.4%	55.5%
Mercury ^a	58	Canada, 52.7%	52.7%	Mexico, 18.7%	18.7%
Nickel	74	Canada, 75.0% Norway, 10.6%	85.6%		
Sulfur ^a	13	Canada, 75.4%	75.4%		
Tin ^a	77			Mexico, 24.6% Malaysia, 64.3% Thailand, 23.3% Bolivia, 8.9%	24.6% 96.5%
Titanium ^a	72	Australia, 99.6%	99.6%		
Tungsten	44	Canada, 30.0% Australia, 11.0%	41.0%	Bolivia, 18.0% Peru, 12.0% Thailand, 9.0%	39.0%
Uranium ^a	12	Canada, 100%	100.0%		
Vanadium ^a	32	South Africa, 56.5%	56.5%		
Zinc ^a	52	Canada, 50.9% Australia, 5.6% Belgium- Luxembourg, 5.0% West Germany, 4.1% Japan, 3.8%	69.4%	Mexico, 8.3% Peru, 5.6%	14.1%

^aFigures are preliminary.
^bChromite ore imports only.
^cEstimate.

SOURCE: Based on Department of the Interior, *Second Annual Report of the Secretary of the Interior Under the Mining and Minerals Policy Act of 1971*, Appendices, June 1973.

In: Grant, "Energy Shock and the Development Prospect" Overseas Development Council, Washington, D. C., 1974

TABLE 7
EVOLUTION OF BASIC COMMODITY PRICES SINCE 1950,
MEASURED IN UNITED STATES DOLLARS,
BY MAJOR CATEGORY OF COMMODITY

	PERCENTAGE CHANGE OVER SELECTED PERIODS					
	PERIOD COVERED		1950 TO 1973-40	1950 TO 1960	1960 TO 1970	1970 TO 1973-40
PRIMARY COMMODITIES	1950-73	4	100.0	-10.0	9.1	103.7
FOOD	1950-73	4	120.0	-6.0	18.1	98.2
CEREALS	1950-73	4	144.9	-13.1	4.3	170.1
BEVERAGE CROPS	1950-73	4	46.5	-16.5	28.3	36.8
MEAT	1950-73	4	368.9	65.6	36.6	107.2
DAIRY PRODUCE	1950-73	4	87.8	1.0	14.1	62.8
OTHER FOODS	1950-73	4	122.1	7.0	16.3	78.5
N-FOOD AGR RAW MAT	1950-73	4	68.9	-13.9	-3.8	104.0
FATS, OILS AND OIL SEEDS	1950-73	4	100.8	-16.1	19.2	100.8
TEXTILE FIBRES	1950-73	4	44.6	-33.1	-10.8	142.2
WOOD AND WOODPULP	1950-73	4	175.9	27.7	12.3	92.4
OTH N-FOOD AGR RAW MAT	1950-73	4	104.7	-0.8	-25.4	176.6
MINERAL RAW MAT	1950-73	4	165.6	11.1	11.0	115.3
METAL ORES	1950-73	4	122.2	23.5	22.0	47.5
NON-FERROUS ORES	1950-73	4	142.2	-3.9	52.0	65.8
FUELS	1950-73	4	173.4	6.4	9.0	135.8
N-FERROUS BASE MET	1950-73	4	193.0	23.3	69.8	40.0
MANUFACTURED GOODS EXP	1950-73	4	105.0	22.5	19.4	40.2

SOURCE - CENTRE FOR DEVELOPMENT PLANNING, PROJECTIONS AND POLICIES OF THE DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS OF THE SECRETARIAT, BASED ON PRICE INDICES PUBLISHED BY THE STATISTICAL OFFICE OF THE DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS

In: United Nations "Study of the Problems of Raw Materials and Development"
2 April 1974

TABLE II
EVOLUTION OF BASIC COMMODITY PRICES SINCE 1950,
MEASURED IN UNITED STATES DOLLARS,
FOR SELECTED BASIC COMMODITIES

(ARRANGED ACCORDING TO MAGNITUDE OF AVERAGE ANNUAL CHANGE SINCE 1950)

	PERIOD COVERED	PERCENTAGE CHANGE OVER SELECTED PERIODS				
		1950 TO 1973-74	1950 TO 1960	1960 TO 1970	1970 TO 1973-74	
BEEF	1950-73	4	643.5	126.1	42.3	131.1
ZINC ORE	1950-73	4	343.9	-17.7	19.8	355.4
COPPER ORE	1950-73	4	326.0	39.7	113.7	42.7
FISH	1950-73	4	291.9	23.0	65.9	92.1
COPPER	1950-73	4	298.3	36.4	106.7	37.8
OILSEED CAKE AND MEAL	1950-73	4	270.9	10.1	28.7	1.6
ZINC	1950-73	4	259.6	-20.3	20.3	2.2
SISAL	1954-73	4	(219.3)	(22.8)	-41.4	343.9
LINSEEDS	1954-73	4	(210.6)	(1.9)	0.9	201.9
NICKEL	1950-73	4	249.1	70.9	75.5	16.4
POULTRY	1961-73	4	(124.7)	(0.0)	(13.5)	98.0
MUTTON AND LAMB	1950-73	4	215.6	56.3	27.3	59.1
LUMBER	1950-73	4	214.1	34.6	11.4	109.4
PORK	1950-73	4	198.7	25.3	44.4	65.0
NICKEL ORE	1954-73	4	(155.6)	(23.7)	74.5	18.9
OLIVE OIL	1950-73	4	186.2	10.3	18.8	118.4
COAL	1950-73	4	175.5	10.8	53.3	64.5
TIN ORE	1950-73	4	179.0	7.4	67.8	54.8
RICE	1950-73	4	172.7	-10.1	12.4	170.0
TIN	1950-73	4	164.6	6.1	67.8	48.6
CRUDE PETROLEUM	1950-73	4	163.0	2.0	-2.0	163.0
WHEAT	1950-73	4	163.0	-13.0	-4.3	215.6
COTTONSEED OIL	1954-73	4	(130.2)	(-23.8)	31.3	130.2
COCOA	1950-73	4	142.5	0.9	18.7	102.4
GROUNDNUTS	1950-73	3	(136.8)	15.8	20.9	(69.2)
LINSEED OIL	1950-73	4	135.2	-26.7	-26.4	336.0
BACON	1950-73	4	129.5	7.6	14.1	86.7
ANIMAL FATS AND OILS	1950-73	4	127.6	-18.7	25.7	122.6
FURSKINS	1961-73	4	(66.7)	(0.0)	(-3.8)	73.3
CHEESE	1950-73	4	122.0	12.2	35.9	45.6
WINE	1950-73	4	120.8	14.3	28.4	50.4
WOODPULP	1950-73	4	115.1	15.1	15.9	62.1
SOYBEAN OIL	1954-73	4	(95.2)	(-33.8)	41.7	108.1
MILK	1950-73	3	113.5	-2.4	28.5	70.3
PALM KERNEL OIL	1954-73	3	(91.5)	(6.6)	8.0	(66.4)

SCUPCC - CENTRE FOR DEVELOPMENT PLANNING, PROJECTIONS AND POLICIES OF THE DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS OF THE SECRETARIAT, BASED ON PRICE INDICES PUBLISHED BY THE STATISTICAL OFFICE OF THE DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS.

NOTE - FIGURES IN PARENTHESES COVER LESS THAN FULL PERIOD SHOWN

TABLE 8 (continued)
 EVOLUTION OF BASIC COMMODITY PRICES SINCE 1950,
 MEASURED IN UNITED STATES DOLLARS,
 FOR SELECTED BASIC COMMODITIES

(ARRANGED ACCORDING TO MAGNITUDE OF AVERAGE ANNUAL CHANGE SINCE 1950)

PERCENTAGE CHANGE OVER SELECTED PERIODS						
	PERIOD COVERED		1950 TO 1973-40	1950 TO 1960	1960 TO 1970	1970 TO 1973-40
IRON ORE	1950-73	4	101.7	74.6	-5.8	22.7
SOYBEANS	1950-73	4	97.2	-23.9	30.1	99.1
EGGS	1950-73	4	31.0	-4.5	-20.3	150.0
BARLEY	1950-73	4	90.2	-11.8	13.3	90.2
FLAX	1950-73	4	89.0	8.5	18.0	47.6
LEAD ORE	1950-73	4	88.0	-27.8	49.1	74.7
COPPER	1950-73	4	86.6	-11.0	3.5	102.6
ALUMINIUM	1950-73	4	86.6	71.6	10.4	-1.6
TOBACCO	1950-73	4	83.0	27.4	16.1	24.1
COCONUT OIL	1950-73	4	83.3	-18.1	16.1	92.7
MAIZE	1950-73	4	81.9	-20.7	19.6	91.8
BAUXITE	1950-72	4	(76.5)	7.4	90.4	(-13.7)
SUGAR	1950-73	4	73.4	-26.6	19.0	98.6
LEAD	1950-73	4	64.9	-30.1	51.7	60.2
CHROME ORE	1954-73	4	(45.4)	(14.4)	18.9	6.8
CRUDE FERTILIZER	1950-73	4	52.7	17.6	15.0	13.0
GROUNDNUT OIL	1950-73	3	(51.6)	-1.8	24.5	(24.1)
PALM KERNELS	1950-73	3	(48.0)	7.2	2.9	(34.6)
COTTON	1950-73	4	40.3	-37.7	2.0	130.1
COFFEE	1950-73	4	44.2	-23.9	45.7	30.1
PALM OIL	1950-73	4	38.8	-10.5	14.9	44.8
WOOL	1950-73	4	30.6	-36.6	-25.9	177.8
BUTTER	1950-73	4	28.7	-1.1	3.5	25.8
FRUIT	1954-73	4	(21.0)	(2.2)	-14.7	39.5
HIDES	1950-73	4	22.1	-29.2	-14.5	101.7
JUTE	1950-73	4	20.7	32.2	-7.0	-1.9
RUBBER	1950-73	4	-2.0	0.7	-49.3	92.2
MANGANESE ORE	1954-73	4	(-2.3)	(-9.9)	-34.7	66.2
TEA	1950-73	4	-24.9	0.0	-20.0	-6.0

SOURCE - CENTRE FOR DEVELOPMENT PLANNING, PROJECTIONS AND POLICIES OF THE DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS OF THE SECRETARIAT, BASED ON PRICE INDICES PUBLISHED BY THE STATISTICAL OFFICE OF THE DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS.

NOTE - FIGURES IN PARENTHESES, 33/ER LESS THAN FULL PERIOD SHOWN

In: UN "Study of the Problems of Raw Materials and Development" 2 April 1974

TABLE 9
EVOLUTION OF BASIC COMMODITY PRICES SINCE 1950,
MEASURED IN RELATION TO UNIT VALUE OF EXPORTS OF MANUFACTURERS,
BY MAJOR CATEGORY OF COMMODITY

PERCENTAGE CHANGE OVER SELECTED PERIODS						
	PERIOD COVERED		1950 TO 1973-40	1950 TO 1960	1960 TO 1970	1970 TO 1973-40
PRIMARY COMMODITIES	1950-73	4	-2.4	-26.5	-8.6	45.3
FOOD	1950-73	4	7.3	-23.3	-1.1	41.4
CEREALS	1950-73	4	19.4	-29.0	-12.6	92.7
BEVERAGE CROPS	1950-73	4	-28.6	-31.9	7.5	-2.4
MEAT	1950-73	4	128.7	35.2	14.4	47.9
DAIRY PRODUCE	1950-73	4	-8.4	-17.5	-4.4	16.2
OTHER FOODS	1950-73	4	8.3	-12.7	-2.6	27.3
NON-FOOD AGR RAW MAT	1950-73	4	-17.6	-29.7	-19.4	45.5
FATS, OILS AND OILSEEDS	1950-73	4	-2.0	-31.5	-0.2	43.3
TEXTILE FIBRES	1950-73	4	-29.5	-45.4	-25.2	72.8
WOOD AND WOODPULP	1950-73	4	34.6	4.3	-6.0	37.3
OTH N-FOOD AGR RAW MAT	1950-73	4	-0.1	-19.0	-37.5	97.3
MINERAL RAW MAT	1950-73	4	29.5	-9.3	-7.0	53.6
METAL ORES	1950-73	4	8.4	0.8	2.2	3.3
NON-FERROUS ORES	1950-73	4	18.1	-21.6	27.4	18.3
FUELS	1950-73	4	33.4	-13.2	-8.7	68.2
N-FERROUS BASE MET	1950-73	4	42.4	0.6	42.2	-0.1
MANUFACTURED GOODS EXP	1950-73	4	0.0	0.0	0.0	0.0

SOURCE - CENTRE FOR DEVELOPMENT PLANNING, PROJECTIONS AND POLICIES OF THE DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS OF THE SECRETARIAT, BASED ON PRICE INDICES PUBLISHED BY THE STATISTICAL OFFICE OF THE DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS.

In: UN "Study of the Problems of Raw Materials and Development" 2 April 1974

TABLE 10
PRICE CHANGES IN MAJOR COMMODITY EXPORTS
OF DEVELOPING COUNTRIES

Major Commodities	Percentage Change In Price, 1972-1974 ^a	Per cent of Total World Trade, 1970 ^b	Principal Exporters Shares of World Exports of Commodity, 1970
Petroleum	355	5.01	Saudi Arabia, 15% Iran, 13%
Urea	239 ^c	n.a.	n.a.
Rubber	211	.48	Malaysia, 30%
Wheat	196	1.00	United States, 32% Canada, 21% Australia, 12% Argentina, 4%
Palm Oil	147	.06	Malaysia, 44%
Rice	138	.36	United States, 27% Thailand, 11%
Cotton	137	.76	United States, 16% Egypt, 14%
Corn	114	.58	United States, 45%
Sisal	113 ^c	.02	Tanzania, 33%
Sugar	105	.86	Philippines, 10%
Cocoa	103	.27	Ghana, 35%
Ground Nuts	91	.07	Nigeria, 29%
Copper	90	1.29	Zambia, 24% Chile, 21%
Soybeans	79 ^d	.42	United States, 94%
Tin	72	.21	Malaysia, 50% Bolivia, 16%
Iron ore ^e	46 ^c	.80	Venezuela, 7%
Coffee	36	.93	Brazil, 32% Colombia, 16%
Tea	19	.21	India, 31%
Jute	17	.05	Sri Lanka, 29% Pakistan/Bangladesh, 50%

^aPrice change from 1972 (average) to 1974 (January), unless otherwise noted.

^bWorld trade equalled \$280.4 billion in 1970, \$371.7 billion in 1972, and \$487.5 billion in 1973 (second quarter estimate).

^cPrice change from 1972 (average) to 1973 (average).

^dPrice change from 1972 (average) to 1973 (October).

^eData available for developing country exporters only.

SOURCES: Based on International Monetary Fund, *International Financial Statistics*, December 1973, and World Bank staff estimates.

In: Grant, "Energy Shock and the Development Prospect" Overseas Development Council, Washington, D. C., 1974

TABLE II
OFFICIAL CAPITAL FLOW ASSUMPTIONS 1973-80 FOR FORTY SELECTED LDC'S
AS OF DECEMBER 1973

(Million US\$)

	1973			1974			1975			1980		
	High Income	Medium Income	Low Income	High Income	Medium Income	Low Income	High Income	Medium Income	Low Income	High Income	Medium Income	Low Income
I. International Organizations												
a. Commitments	2,132	716	1,114	2,688	816	1,113	2,452	915	1,476	3,047	1,153	1,602
b. Disbursements	1,112	375	750	1,470	473	839	1,625	558	958	2,549	984	1,465
c. Net transfer	577	266	579	798	330	650	891	387	756	1,004	554	1,136
II. Governments												
a. Commitments	1,017	722	1,837	1,284	741	2,003	1,629	333	2,225	1,941	1,192	2,607
b. Disbursements	1,365	628	1,703	1,378	607	1,722	1,301	653	1,957	1,831	1,407	2,559
c. Net transfer	227	94	790	171	92	748	23	152	901	224	794	1,140
III. Suppliers Credits												
a. Commitments	1,075	1,023	230	1,281	1,057	314	1,750	1,442	392	2,405	1,597	464
b. Disbursements	1,076	1,123	258	1,368	1,091	327	1,814	1,154	371	2,411	1,589	426
c. Net transfer	105	658	42	412	598	115	727	498	139	132	246	-20
IV. Financial Institutions												
a. Commitments	831	13	115	818	19	65	1,010	19	55	1,448	90	25
b. Disbursements	1,021	62	221	902	46	71	1,030	30	56	1,446	90	25
c. Net transfer	208	-107	45	131	-152	-177	157	-141	-221	-191	-10	-43
V. Bonds												
a. Commitments	260	0	0	300	0	0	440	0	0	715	0	0
b. Disbursements	260	0	0	300	0	0	440	0	0	715	0	0
c. Net transfer	-83	-13	-18	-7	-13	-9	135	-11	-12	83	-6	-5
VI. Public Loans n.e.i.												
a. Commitments	66	68	256	66	45	283	55	39	310	47	30	445
b. Disbursements	78	41	221	60	45	268	59	43	302	44	29	424
c. Net transfer	-64	22	184	-77	21	211	-73	13	197	-61	-27	38
TOTALS												
(a)	5,381	2,542	3,552	6,417	2,678	3,978	7,336	2,950	4,458	9,683	4,062	5,243
(b)	4,912	2,229	3,153	5,428	2,262	3,227	6,269	2,438	3,644	8,996	4,179	4,899
(c)	964	920	1,622	1,428	876	1,538	1,860	898	1,760	927	1,443	2,246

Source: "Additional External Capital Requirements of Developing Countries"
IBRD March 1974

TABLE 12
COAL PRODUCTION IN THE DEVELOPING COUNTRIES, 1968

Million metric tons			
Country	Coal	Lignite	Total
Latin America			
Argentina	0.47	-	0.47
Brazil	2.36	-	2.36
Chile	1.47	-	1.47
Colombia	3.0	0.01	3.01
Mexico	1.5	-	1.5
Peru	0.17	-	0.17
Venezuela	0.03	-	0.03
Subtotal	4.95	-	4.95
Africa			
Morocco	0.45	-	0.45
Mozambique	0.31	-	0.31
Nigeria	0.20	-	0.20
Southern Rhodesia	2.97	-	2.97
Zaire	0.07	-	0.07
Zambia	0.57	-	0.57
Subtotal	4.57	-	4.57
Asia			
Afghanistan	0.13	-	0.13
Burma	0.01	-	0.01
India	70.81	1.36	72.17
Indonesia	0.18	-	0.18
Iran	0.29	-	0.29
Pakistan	0.89	-	0.89
Philippines	0.03	-	0.03
Republic of Korea	10.24	-	10.24
Thailand	-	-	-
Turkey	4.77	0.10	4.87
Countries NES	5.01	1.35	6.36
Subtotal	92.36	2.81	95.17
Total	101.88	2.82	104.71

Source: World Energy Supplies, United Nations publications (Statistical papers, series J), No. 13 (E.70.XVII.19).

Source: UN "Petroleum in the 1970s" 1974.

TABLE 13
CRUDE PETROLEUM AND NATURAL GAS RESERVES AND PRODUCTION
IN THE DEVELOPING COUNTRIES, 1970

Country	Reserves		Production		Producing wells (oil)
	Petroleum 10 ⁶ bbls.	Natural gas 10 ⁹ cf	Crude petroleum (mb/d)	Natural gas 10 ⁹ cf	
Latin America					
Caribbean America					
Barbados	a/	-	-	-	-
Colombia	1,675	2,800	222	110	2,171
Cuba	14	-	NA	NA	15
Honduras	a/	-	-	-	-
Mexico	3,250	11,600	430	660	3,127
Trinidad and Tobago	575	3,500	141	164	3,133
Venezuela	14,040	25,400	3,707	1,752	9,364
Subtotal	19,554	43,300	4,500	2,686	17,810
South America					
Argentina	1,575	8,800	392	223	5,400
Bolivia	225	5,000	16	21	171
Brazil	855	6,000	157	47	1,015
Chile	125	2,000	35	365	380
Ecuador	3,000	5,000	4	13	708
Peru	270	3,000	72	65	2,500
Subtotal	6,050	29,800	676	734	10,174
Latin America, total	25,604	73,100	5,176	3,420	27,984
Africa					
Mediterranean Africa					
Algeria	8,025	141,000	988	100	775
Egypt	4,500	5,000	331	-	332
Libyan Arab Republic	29,200	30,000	3,321	-	1,083
Morocco	1	16	1	15	55
Tunisia	550	1,000	87	2	46
Subtotal	42,276	177,016	4,728	117	2,291
Other Africa					
Cabinda	500	1,000	90	-	141
Congo	4	-	1	-	-
Dahomey	1	-	-	-	-
Gabon	700	7,000	106	2	100
Nigeria	9,300	6,000	1,083	-	364
Zaire	1	-	-	-	-
Subtotal	10,506	14,000	1,280	2	610
Africa total	52,782	191,032	6,008	119	2,901

TABLE 13 (continued)
CRUDE PETROLEUM AND NATURAL GAS RESERVES AND PRODUCTION
IN THE DEVELOPING COUNTRIES, 1970

Country	Reserves		Production		Producing wells (oil)
	Petroleum	Natural	Crude	Natural	
	10 ⁶ bly.	gas 10 ⁹ cf	petroleum (mb/d)	gas 10 ⁹ cf	
Asia					
West Asia					
Abu Dhabi	11,800	9,500	694	-	24
Bahrain	634	5,000	77	42	232
Dubai	983	750	86	-	11
Iran	70,000	214,000	3,829	642	266
Iraq	32,000	18,500	1,566	28	113
Israel	13	72	70	4	32
Kuwait	67,100	38,000	2,735	11	741
Neutral Zone	25,700	8,000	501	-	450
Oman	1,700	2,000	334	-	62
Qatar	4,300	8,000	362	15	69
Saudi Arabia	128,500	49,500	3,549	-	423
Syria	1,200	750	83	-	90
Turkey	645	190	69	-	279
Subtotal	344,575	354,262	13,955	742	2,862
Far East					
Afghanistan	95	5,000	-	59	16
Brunei	1,000	6,000	148	-	992
Burma	40	80	18	2	15
India	956	1,800	135	10	200
Indonesia	18,000	3,000	853	78	2,136
Pakistan	41	20,000	10	98	17
Thailand	148	-	b/	-	26
Countries NES	20	800	2	45	51
Subtotal	20,300	36,680	1,166	292	3,083
Asia total	364,875	390,942	15,121	1,034	5,945
Total	443,261	655,074	26,305	4,573	36,830

Source: Based on data from Oil and Gas Journal and other sources.

a/ Less than 1 million barrels.

b/ Less than 500,000 barrels daily.

In: UN "Petroleum in the 1970s" 1974.

TABLE 14
PROJECTED CONSUMPTION OF OIL IN THE
DEVELOPING COUNTRIES, 1963 AND 1975

<u>Region</u>	<u>Millions of tons</u>		<u>Percentage</u> <u>average growth rate</u>
	<u>1963</u>	<u>1975</u>	
Latin America	67.2	111.0	4.3
Africa	14.6	37.0	8.1
Asia	45.8	83.0	5.1
Total	127.6	231.0	5.1

Source: J. L. Fisher, "Global projections for the mining sector", in Selected Aspects of Projections for the World Economy, vol. II (United Nations publication, Sales No.: E.69.II.C.2).

In: "Petroleum in the 1970s" 1974.

TABLE 15
WORLD OIL AND GAS RESERVES
January 1, 1974

AREA	RESERVES	
	OIL (million bbl)	GAS (trillion cu ft)
WORLD	827,854	2,032,372
A. DEVELOPED AREAS	62,159	342,506
of which		
NORTH AMERICA	44,124	297,609
Canada	9,424	50,299
United States	34,700	247,310
WESTERN EUROPE	13,492	191,497
Austria	157	589
Belgium	-	-
Denmark	748	1,800
France	80	6,500
Germany F.R.	564	12,308
Italy	212	5,300
Netherlands	251	92,000
Norway	4,000	23,000
Sweden	-	-
Switzerland	-	-
United Kingdom	10,000	30,000
JAPAN	12	700
OCEANIA & SOUTH AFRICA	2,524	32,700
Australia	2,300	37,700
New Zealand	224	15,000
South Africa	-	-
B. DEVELOPING AREAS ^{1/2}	15,103	56,221
of which:		
AFRICA	9,088	1,075
ASIA & MIDDLE EAST	1,444	26,025
EUROPE	498	2,300
LATIN AMERICA	8,073	26,821
C. CENTRALLY PLANNED ECONOMIES	101,000 ²	735,400 ²
D. OIL EXPORTING COUNTRIES	447,592	699,245
Abu Dhabi	21,500	12,500
Algeria	7,640	105,945
Angola	1,500	1,500
Bahrain	360	4,000
Bolivia	260	10,000
Brunei-Maleysia	1,600	20,000
Dubai	2,500	1,000
Ecuador	5,675	5,000
Egypt	5,125 ¹	4,200
Gabon	1,500	6,500
Indonesia	10,500	15,000
Iran	60,000	276,000
Iraq	31,500	22,000
Kuwait	64,000	32,500
Libya	25,500	27,500
Netherlands Antilles	-	-
Neutral Zone	17,500	8,000
Nigeria	20,000	40,000
Oman	5,250	2,000
Qatar	6,500	8,000
Saudi Arabia	132,000	50,900
Sharjah ^{1/4}	1,500	1,500
Syria	7,100	700
Trinidad & Tobago	2,200	5,000
Tunisia	250	1,500
Venezuela	14,000	42,000
Colombia	1,432	2,500

^{1/1} Sinal fields held by Israel are included in Asia and Middle East.

^{1/2} Including USSR, 80 billion, China, 20 billion and others 3 billion.

^{1/3} Including USSR, 706 trillion, China, 20 trillion, Hungary, 3 trillion and others, 6.4 trillion.

^{1/4} Production expected to start in 1976.

^{1/5} Net oil importing developing countries.

Source: Oil and Gas Journal.

In: "Additional External Capital Requirements of Developing Countries" IBRD March 1974

TABLE 16
WORLD OIL PRODUCTION

(In thousand barrels per day)

AREA	1972 ACTUAL	1973 ESTIMATE
<u>WORLD</u>	<u>30,610</u>	<u>33,204</u>
<u>A. DEVELOPED AREAS</u>	<u>11,645</u>	<u>11,713</u>
of which:		
<u>NORTH AMERICA</u>	<u>10,982</u>	<u>10,973</u>
Canada	1,517	1,750
United States	9,465	9,223
<u>WESTERN EUROPE</u>	<u>307</u>	<u>300</u>
Austria	46	30
Belgium	-	-
Denmark	4	3
France	31	26
Germany F.R.	139	133
Italy	21	22
Netherlands	31	28
Norway	33	37
Sweden	-	-
Switzerland	-	-
United Kingdom	2	1
<u>JAPAN</u>	<u>13</u>	<u>13</u>
<u>OCEANIA & SOUTH AFRICA</u>	<u>341</u>	<u>423</u>
Australia	341	420
New Zealand	-	3
South Africa	-	-
<u>B. DEVELOPING AREAS</u> ^{/1}	<u>1,387</u>	<u>1,666</u>
of which:		
AFRICA	7	39
ASIA & MIDDLE EAST	367	346
EUROPE	66	93
LATIN AMERICA	1,147	1,188
<u>C. CENTRALLY PLANNED ECONOMIES</u>	<u>8,750</u>	<u>9,312</u>
<u>D. OIL EXPORTING DEVELOPING COUNTRIES</u>	<u>28,678</u>	<u>32,511</u>
COUNTRIES		
Abu Dhabi	1,050	1,283
Algeria	1,068	1,035
Angola-Cabinda	137	160
Bahrain	70	63
Bolivia	43	47
Brunei-Malaysia	292	325
Colombia	198	186
Dubai	151	223
Ecuador	69	197
Egypt ^{/1}	215	180
Gabon	134	143
Indonesia	1,060	1,300
Iran	5,071	6,000
Iraq	1,446	1,888
Kuwait ^{/2}	3,285	3,397
Libya	2,215	2,116
Nigeria	1,817	2,000
Oman	282	271
Qatar	482	355
Saudi Arabia	6,019	7,417
Syria	119	105
Trinidad & Tobago	151	159
Tunisia	83	87
Venezuela	3,219	3,370

^{/1} Sinal fields production not included.

^{/2} Including neutral zone.

^{/3} Net oil-importing developing countries.

Source: Oil and Gas Journal.

In: "Additional External Capital Requirements of Developing Countries" IBRD March 1974

TABLE 17
SELECTED SOCIAL AND ECONOMIC INDICATORS
OF DEVELOPMENT, BY GROUPS OF COUNTRIES

Poorest Developing Countries

Country	Popula- tion, mid-1971 (mil.)	Per Capita		Life Expec- tancy (yrs.)	Birth Rate Per 1,000	Death Rate Per 1,000	Infant Mortality Per 1,000 Births	Liter- acy %	Per Capita Energy Consump- tion, 1971 (kilgms.)	Total Imports (c.i.f.), 1972 (\$ mil.)	Net Grain Trade 1972 (\$ mil.)	Total Exports (f.o.b.), 1972 (\$ mil.)	Total Reserves, mid-1973 (\$ mil.)
		1971 (\$)	Growth Rate, 1965-71 (%)										
Afghanistan	18.3	80	1.6	38	51	27	184 ^a	8	27	75	-10 ^b	90	54
Bangladesh	83.4	70	-0.1	46	43	16 ^a	125	22	n.a.	n.a.	-160 ^b	n.a.	n.a.
Bhutan	0.9	80	0.4	n.a.	47 ^a	24 ^a	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Botswana	0.7	160	4.9	41	44	23	175	20	n.a.	n.a.	-4.9	n.a.	n.a.
Burma	29.6	80	0.1	48	45	17	139	60	63	133	-36.0	111	92
Burundi	3.9	60	0.5	41	48	25	150	10	11	31	-1.0	89	20
Cent. African Republic	1.6	150	1.6	40 ^a	43	25	190	5-10	60	35 ^c	-1.3 ^b	34 ^c	2
Chad	4.0	80	2.2	40	48	25	160	5-10	27	61	-2.3	11	6
Dahomey	2.9	100	1.8	39	51	26	149	20	38	n.a.	-2.3	n.a.	31
Ethiopia	26.8	80	1.2	39	46	25	162 ^a	5	32	189	-5.6	168	164
Gambia	0.4	140	2.1	41	42	23	125	10	68	93	-1.6 ^b	74	30
Guinea	4.2	50	0.3	40	47	25	216	5-10	108	n.a.	-5.8 ^b	n.a.	n.a.
Haiti	5.6	120	-0.8	44	44	20	130 ^a	10	29	64	-4.7	43	25
India	600.4	110	2.4	51	42	17	139	34	185	2,263	-137.0	2,401	1,335
Kenya	11.7	160	4.3	48	48	18	115 ^a	20-25	171	560 ^d	-18	307 ^d	288
Khmer Republic	7.7	130	-2.2	52 ^a	45	16	127	41	24	n.a.	-2.2 ^b	n.a.	n.a.
Laos	3.2	120	3.5	50	42	17	123 ^a	15	91	83 ^c	-7.7 ^b	6 ^d	n.a.
Lesotho	1.1	100	0.5	45	33	21	181	n.a.	n.a.	n.a.	-16.1	n.a.	n.a.
Malagasy	7.2	140	2.5	38	46	25	102	39	n.a.	202	n.a.	164	73
Malawi	4.8	90	2.3	40	49	25	120	22	49	130	-0.2	81	52
Maldives	0.1	90	0.7	n.a.	46	23	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mali	5.5	70	1.0	39 ^a	50	27	190	5	25	70	-1.9 ^b	17	5
Mauritania	1.2	170	2.1	41	44	23	187	1-5	133	n.a.	-3.0	n.a.	n.a.

^aBased on Office of Population, U.S. Agency for International Development, *Population Pro-
gram Assistance*, December 1972.
^bFigure equals total gross imports of grain.
^c1970.
^d1971.

^eTotal reserves as of end December 1972.

^fAccording to State Department estimates. Imports for China and Cuba are c.i.f.; for the Soviet
Union, f.o.b.

^gSenegal is an associate member of OPEC.

^hTotal imports and exports figures for Belgium include Luxembourg.

ⁱAs of end Decem-ber 1971.

SOURCES: Population, GNP per capita, and growth rate figures are based on *World De-
velopment*, 1972 (Washington, D.C.: World Bank Group, 1974); life expectancy, birth rate, ac-
rate, and infant mortality data are from Population Reference Bureau, "World Population Data
Sheet," 1973, with exceptions noted; literacy rates are from U.S. Agency for International
Development, *Population Program Assistance*, December 1972; energy consumption figures
from United Nations, *Statistical Yearbook, 1972*, Publication Sales No. E/F 73 XVII; ...
import, export, and reserve figures are based on International Monetary Fund, *International
Financial Statistics*, December 1972; grain import figures are based on Food and Agriculture
Organization, *Trade Yearbook*, October 1973.

TABLE 17 (continued)
SELECTED SOCIAL AND ECONOMIC INDICATORS
OF DEVELOPMENT, BY GROUPS OF COUNTRIES

Poorest Developing Countries (Continued)

Country	Popula- tion, mid-1971 (mil.)	Per Capita GNP 1971 (\$)	Per Capita Growth Rate, 1965-71 (%)	Life Expec- tancy (yrs.)	Birth Rate Per 1,000	Death Rate Per 1,000	Infant Mortality Per 1,000 Live Births	Liter- acy %	Per Capita Energy Consump- tion, 1971 (kilgms.)	Total Imports (c.i.f.), 1972 (\$ mil.)	Net Grain Trade 1972 (\$ mil.)	Total Exports (f.o.b.), 1972 (\$ mil.)	Total Reserves, mid-1973 (\$ mil.)
Nepal	12.0	90	0.6	42	45	23	152 ^a	9	9	n.a.	-9.3	n.a.	102 ^a
Niger	4.2	100	-4.4	43	52	23	250	5	22	n.a.	+3.5	n.a.	n.a.
Pakistan	68.3	130	3.0	50	51	18	142	16	56	705	+8.2	737	469
Rwanda	3.9	60	2.2	43	52	23	133	10	10	35	-0.5 ^b	190	16
Sikkim	0.2	80	0.3	n.a.	48	29	208 ^a	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Somalia	3.0	70	0.8	40	46	24	190	5	31	73	-10.9 ^b	43	39
Sri Lanka	12.9	100	1.8	62	30	8	48	75	163	333	-62.6	313	70
Sudan	17.4	120	-0.9	50	49	18	121	10-15	119	320	-11.0	357	41
Swaziland ^d	0.4	150	0.9	41	52	24	168	36	n.a.	n.a.	n.a.	n.a.	n.a.
Tanzania	14.3	110	3.3	44	47	22	162	15-20	49	406	-1.3	320	141
Togo	2.0	150	2.5	40 ^a	51	26	163	5-10	73	n.a.	-1.3 ^b	79	35
Upper Volta	9.3	130	1.6	49	43	18	160	20	72	250 ^d	-3.4	283	16
Western Samoa	0.2	140	0.3	37 ^a	49	29	182	5-10	13	n.a.	-3.2 ^b	n.a.	56
Yemen, Arab Republic	6.0	90	2.4	42	50	23	152 ^a	85	112	n.a.	-0.8 ^b	n.a.	n.a.
Yemen, People's Republic	1.5	120	-7.2	42	50	21	152	10	14	n.a.	-8.9 ^b	n.a.	n.a.
Zaire	19.3	50	3.6	43 ^a	43	23	115	15-20	639	170	-7.0	n.a.	77
									77	643	-20.1 ^b	690	149

Other Developing Countries

Angola	5.6	370	5.4	34	50	30	192	10-15	157	352	-7.0	479	n.a.
Argentina	23.6	1,230	2.5	68	22	9	53	91	1,772	1,505	+335.9	1,940	817
Bahamas	0.2	2,400	2.2	n.a.	28	6	27	91	5,600	n.a.	-2.5 ^b	n.a.	n.a.
Bahrain	0.2	640	7.1	46 ^a	50	19	138 ^a	29	7,185	n.a.	-4.1	n.a.	n.a.
Barbados	0.2	670	5.6	71	22	9	42	98	1,238	142	-3.9	44	n.a.
Bolivia	5.1	150	2.2	45	44	19	108 ^a	40	224	185	-15.5 ^b	234 ^d	73
Brazil	95.4	460	5.1	61	38	10	94 ^a	67	500	4,763	-132.8	3,991	6,019
Cameroon	5.8	200	3.7	41	43	23	137	10-15	97	299	-5.2	219	35
Chile	10.0	760	2.4	61	26	9	89	84	1,516	980 ^d	-93.4	962 ^d	221 ^f
China, People's Republic	787.2	160	2.6	50	30	13	50 ^f	25	561	2,775 ^f	-350.4	3,055 ^f	n.a.
Colombia	22.3	370	2.3	59	45	11	75	73	638	836	-27.2	743	463
Congo, People's Republic	1.1	270	1.0	41	44	23	180	20	250	n.a.	-2.4 ^b	15	5
Costa Rica	1.8	590	4.5	66	34	7	67	84	446	374	-11.9	281	36
Cuba	8.6	510	-1.6	67	27	8	36	94	1,152	1,300 ^f	-120.8	800 ^f	n.a.
Cyprus	0.6	1,100	6.5	71 ^a	23	8	26	76	1,451	315	-11.0	134	341

TABLE 17 (continued)
SELECTED SOCIAL AND ECONOMIC INDICATORS
OF DEVELOPING, BY GROUPS OF COUNTRIES

Other Developing Countries (Continued)

Country	Population, mid-1971 (mil.)	Per Capita GNP 1971 (\$)	Per Capita GNP Growth Rate, 1965-71 (%)	Life Expec- tancy (yrs.)	Birth Rate Per 1,000	Death Rate Per 1,000	Infant Mortality Per 1,000 Live Births	Per Capita Energy Consump- tion, 1971 (kilograms)	Total Imports (c.i.f.), 1972 (\$ mil.)	Net Grain Trade 1972 (\$ mil.)	Total Exports (f.o.b.), 1972 (\$ mil.)	Total Reserves mid-1972 (\$ mil.)
Dominican Republic	4.1	430	4.7	53	49	15	64	264	370	-12.7	347	54
Egypt	34.1	220	0.2	53	37	16	118	282	877	-68.4	825	184
El Salvador	3.7	320	0.5	55	42	10	53	223	276	+2.7	273	107
Equatorial Guinea	0.3	210	-1.8	41	35	22	140 ^a	183	n.a.	n.a.	n.a.	n.a.
Ghana	8.9	250	-2.1	46	47	18	156	192	290	-13.2	389	179
Guadeloupe	0.3	840	4.9	69	30	8	45	452	152	-5.9 ^b	40	n.a.
Guatemala	5.4	390	2.1	51	43	17	88	250	324	-5.9 ^b	250 ^d	215
Guyana	0.7	420	3.3	65	36	8	40	955	146	+0.8	142	19
Honduras	2.6	300	1.4	49	49	17	115 ^a	234	193	-5.2	206	48
Ivory Coast	5.2	330	4.4	41	46	23	159	265	454	-15.5	553	116
Jamaica	1.9	720	3.5	69	35	7	39	1,338	621	-33.0 ^b	379	180
Jordan	2.4	260	-3.5	53	48	16	115	318	274	-15.8	48	315
Korea, North	14.3	310	4.5	58	39	11	n.a.	2,294	n.a.	-5.7	n.a.	n.a.
Korea, South	31.8	290	10.0	62	31	11	60 ^a	860	2,522	-268.6 ^b	1,524	901
Lebanon	2.8	660	0.8	67 ^a	n.a.	n.a.	59 ^a	841	674 ^d	-41.5	242 ^d	897
Liberia	1.6	210	3.8	43 ^a	50	23	137	358	179	-6.0	244	n.a.
Malaysia	11.2	400	3.3	66	36	8	75 ^a	421	1,638	n.a.	1,716	1,219
Martinique	0.3	970	4.8	69	27	8	35	660	173	-6.2 ^b	45	n.a.
Mauritius	0.8	280	-0.7	61	25	8	65	183	120	-13.8 ^b	106	69
Mexico	52.5	700	2.9	63	43	10	69	1,270	2,932	-59.3	1,615	1,233
Mongolia	1.3	320	1.4	58	42	11	n.a.	945	n.a.	-1.3	n.a.	n.a.
Morocco	15.4	260	2.5	51	50	16	149	205	766	-24.9	633	292
Mozambique	7.8	280	-2.1	41	43	23	140 ^a	178	335 ^d	-7.9	180	n.a.
Nicaragua	2.1	450	1.3	50	46	17	121 ^a	389	218	-3.5	237	127
Oman	0.6	450	25.1	46 ^a	50	19	135 ^a	62	n.a.	n.a.	n.a.	n.a.
Panama	1.5	620	4.5	64	37	9	41	2,121	441	-7.7 ^b	127	3
Paraguay	2.5	280	4.5	59	45	11	n.a.	142	83	-5.5	86	50
Peru	14.0	480	0.5	59	42	11	106 ^a	621	791	-68.0	943	479
Philippines	37.9	240	2.7	59 ^a	45	12	67	298	1,366	-54.4 ^b	1,105	845
Portuguese Guinea	0.6	250	3.0	34	41	30	n.a.	103	n.a.	-2.6	n.a.	n.a.
Reunion	0.5	950	5.1	62 ^a	30	8	58	334	198	-13.1 ^b	50	n.a.
Rhodesia	5.5	320	2.6	51	48	14	122	618	429 ^d	-3.3	402	n.a.
Senegal	4.0	250	-1.2	41	46	22	158 ^a	129	279	-36.2	215	33
Sierra Leone	2.7	200	4.7	41	45	22	136	109	121	-4.0 ^b	118	56
Singapore	2.1	1,200	10.8	68	23	5	21	851	3,883	-44.9	2,131	n.a.
Surinam	0.4	760	5.2	65	41	7	30	2,229	126 ^d	-1.9	152 ^d	n.a.

TABLE 17 (continued)
SELECTED SOCIAL AND ECONOMIC INDICATORS
OF DEVELOPMENT, BY GROUPS OF COUNTRIES

Developing Countries (Continued)

Country	Popula- tion, mid-1971 (mil.)	Per Capita GNP 1971 (\$)	Per Capita GNP Rate, 1955-71 (%)	Life Expec- tancy (yrs.)	Birth Rate Per 1,000	Death Rate Per 1,000	Infant Mortality Per 1,000 Live Births	Liter- acy %	Per Capita Energy Consump- tion, 1971 (kilgms.)	Total Imports (f.o.b.), 1972 (\$ mil.)	Net Grain Trade 1972 (\$ mil.)	Total Exports (f.o.b.), 1972 (\$ mil.)	Total Reserves, mid-1973 (\$ mil.)
Syria	6.5	290	3.1	53	48	15	55 ^a	31	485	477	-12.9	254	135 ^a
Taiwan	14.9	433	7.3	68	27	5	18	85	925 ^c	2,520	n.a.	2,916	1,241
Thailand	37.3	210	4.7	61 ^a	43	10	68 ^a	68	295	1,484	+327.4	n.a.	1,292
Trinidad and Tobago	1.0	940	2.5	67	24	7	40	89	3,962	742	-15.8	557	48
Tunisia	5.2	320	3.6	52	38	16	120	30	255	460	-22.3	311	281
Turkey	36.2	340	4.0	54	40	15	119	46	516	1,558	-5.4	882	1,827
Uruguay	2.9	750	0.7	69	23	9	43	91	958	187	-1.6	197	236
Vietnam, North	21.6	100	2.7	50	33	21	n.a.	n.a.	n.a.	691	-39.4	n.a.	n.a.
Vietnam, South	18.8	230	-0.7	50	n.a.	n.a.	n.a.	65	n.a.	691	-96.7	15	201
Zambia	4.3	380	1.0	44	50	21	159	15-20	458	718	-19.2	758	220

OPEC Countries

Abu Dhabi	0.2	3,150	17.8	46 ^a	50	19	123 ^a	20	832	n.a.	n.a.	n.a.	n.a.
Algeria	14.4	330	4.8	51	50	17	26	20	492	1,760	-75.2 ^b	1,470	477
Ecuador	6.3	310	2.6	58	45	11	91	68	315	327	-1.2 ^b	311	178
Gabon ^a	0.5	700	7.7	40 ^a	33	25	229	12	1,028	n.a.	-1.2	n.a.	28
Indonesia	119.2	80	3.4	48	47	19	125	43	123	1,458	-269.3	1,549	745
Iran	29.8	450	7.7	50	45	17	139 ^a	23	895	2,410	-33.9	2,937	1,182
Iraq	9.7	370	1.4	52	49	15	104	14	650	715	-5.6	1,101	1,120
Kuwait	0.8	3,550	-2.1	64	43	7	39	53	7,898	757	-12.8	2,583	350
Libya	2.0	1,450	8.1	52	46	16	n.a.	27	571	1,104	-27.2 ^b	n.a.	2,717
Nigeria	56.5	140	3.0	37	50	25	157 ^a	25	59	1,502	-33.3 ^b	2,146	520
Qatar	0.1	2,370	5.8	46 ^a	50	19	138 ^a	10-15	2,025	n.a.	n.a.	n.a.	n.a.
Saudi Arabia	7.5	540	7.4	42	50	23	152 ^a	15	938	806	-65.6 ^b	3,844 ^d	3,135
Venezuela	10.6	1,060	1.4	64	41	8	49	76	2,518	2,433	-78.1 ^b	3,029	1,965

Developed Countries

Albania	2.2	450	4.8	66	35	8	87	72	631	n.a.	-5.4 ^a	n.a.	n.a.
Austria	7.5	2,200	4.7	71	14	13	25	98	3,231	5,210 ^b	-18.9	3,883	3,106
Australia	12.7	2,870	3.3	71	21	9	17	98	5,395	5,140	+694.4	6,456	6,135
Belgium	9.7	2,960	4.5	71	14	12	20	97	6,116	15,606 ^h	-298.0	16,081 ^h	5,057
Bulgaria	8.5	820	7.5	71	15	10	26	90	4,029	n.a.	+46.4	n.a.	n.a.
Canada	21.6	4,140	3.4	72	16	7	18	85	9,326	20,266	+1,180.0	21,025	6,046

TABLE 17 (continued)
SELECTED SOCIAL AND ECONOMIC INDICATORS
OF DEVELOPMENT, BY GROUPS OF COUNTRIES

Developed Countries (Continued)

Country	Popula- tion, mid-1971 (mil.)	Per Capita GNP		Life Expec- tancy (yrs.)	Birth Rate Per 1,000		Death Rate Per 1,000		Infant Mortality Per 1,000 Live Births		Liter- acy %	Per Capita Energy Consump- tion, 1971 (kilograms)	Total Imports (cif.), 1972 (\$ mil.)	Net Grain Trade 1972 (\$ mil.)	Total Exports (f.o.b.), 1972 (\$ mil.)	Total Reserve, mid-1972 (\$ mil.)
		1971 (\$)	1965-71 Rate, (%)		Per 1,000	Per 1,000	Per 1,000	Per 1,000	Per 1,000	Per 1,000						
Czechoslovakia	14.0	2,120	6.1	71	17	12	12	22	n.a.	6,615	n.a.	n.a.	-15.7	n.a.	n.a.	n.a.
Denmark	5.0	3,430	3.9	74	16	10	10	14	99	5,327	5,069	-18.9	4,416	1,165	583	1,165
Finland	4.7	2,550	4.6	69	13	10	11	11	99	4,334	3,198	+3.7	2,947	583	11,593	583
France	51.2	3,360	4.9	73	17	11	13	13	97	3,928	27,002	-1,224.0	26,423	n.a.	32,295	11,593
Germany, East	17.0	2,190	5.2	72	12	14	14	18	99	6,308	n.a.	-212.1	n.a.	n.a.	32,295	n.a.
Germany, West	61.3	2,210	4.2	71	12	12	12	23	99	5,223	40,190	-624.4	46,701	-27.2	870	1,103
Greece	9.0	1,250	6.4	69	16	8	8	27	80	1,470	2,345	46.1	n.a.	n.a.	n.a.	n.a.
Hungary	10.3	1,200	5.9	70	15	11	11	33	98	3,291	n.a.	-2.6 ^b	191	93	1,039	93
Iceland	0.2	2,359	n.a.	74	20	7	7	13	99	4,311	234	-47.3	1,605	1,427	1,427	1,427
Ireland	3.0	1,510	4.1	70	22	11	11	20	98	3,285	2,103	-87.2 ^b	1,148	6,013	15,199	6,013
Israel	3.0	2,190	5.2	72	28	7	7	23	84	2,710	1,857	-425.6	18,548	28,620	15,199	15,199
Italy	54.1	1,860	n.a.	71	17	10	10	28	95	2,082	19,282	-974.4	n.a. ^h	n.a.	n.a.	n.a.
Japan	104.7	2,130	10.4	72	19	7	7	13	98	3,267	23,434	n.a. ^h	67	318	5,875	5,875
Luxembourg	0.4	n.a.	n.a.	n.a.	12	12	12	14	98	n.a.	175	-9.2 ^b	16,782	1,795	1,039	1,039
Malta	0.3	694	n.a.	71	17	9	9	24	83	981	17,421	-248.0	3,245	1,579	1,579	1,579
Netherlands	13.2	2,620	4.2	74	16	9	9	11	98	5,059	1,403	-3.5 ^b	1,795	3,245	2,634	2,634
New Zealand	2.8	2,470	1.6	71	22	9	9	17	98	2,924	4,332	-184.1	1,287	n.a.	n.a.	n.a.
Norway	3.9	3,130	3.7	74	17	10	10	13	99	5,189	n.a.	-79.7	2,186	n.a.	n.a.	n.a.
Poland	32.7	1,350	5.3	70	17	6	6	29	95	4,374	2,186	-16.8	2,674	1,901	1,901	1,901
Portugal	9.7	730	5.3	68	21	11	11	50	63	805	n.a.	+180.0	3,791	5,771	5,771	5,771
Romania	20.5	740	6.0	68	20	10	10	42	89	2,975	4,022	-140.6	8,750	2,379	2,379	2,379
South Africa	22.7	610	2.2	43	41	17	17	138	86	1,614	6,732	+43.5	6,817	8,222	8,222	8,222
Spain	34.0	1,100	4.9	70	19	8	8	28	99	6,089	8,110	-606.8	24,345	7,013	7,013	7,013
Sweden	8.1	4,240	3.0	75	14	10	10	11	99	5,575	27,859	-503.4	13,800 ^f	14,347	14,347	14,347
Switzerland	6.3	3,640	2.8	72	14	9	9	14	98	3,575	12,500 ^f	-75.4	2,237	1,043	1,043	1,043
United Kingdom	55.9	2,430	1.8	71	15	12	12	18	99	4,535	58,974	-3,343.3	49,780	1,043	1,043	1,043
U.S.S.R.	245.1	1,400	6.2	70	18	8	8	23	99	11,244	3,233	-75.4	2,237	1,043	1,043	1,043
United States	207.0	5,160	1.9	71	16	9	9	19	99	11,244	3,233	-75.4	2,237	1,043	1,043	1,043
Yugoslavia	20.7	730	5.0	67	18	9	9	49	80	1,608	3,233	-75.4	2,237	1,043	1,043	1,043

TABLE 18

Actual 2/

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

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This report sets down the results of research on some of the significant problems relating to energy and national security. The relationship of the security of oil supplies to market conditions in the past and in the future is examined. An analysis is made of the scope of oil revenues for domestic and foreign investment and of the patterns of economic development and investment in Middle East oil producing countries. The general questions of access to non-oil global resources and the relationship of energy and American economic security are addressed.

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